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Founded and Edited by G. STANLEY HALL.

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EDITORIAL.

The PEDAGOGICAL SEMINARY has always been published irregularly whenever good matter within its field and up to its standard was at hand. The present number follows the preceding one, and the next will follow this at much less than the usual interval, because of the exceptional pressure of new and valuable researches incident to the rapid growth of the department of this University which the PEDAGOGICAL SEMINARY represents. An entire volume will thus be published within about six months, and subscribers will then be invited to renew with the next number, so that two volumes can appear this year.

In this number Mr. Ellis and the editor have published a report which, tentative as it is, seems to them to open up for almost the first time a subject of the greatest importance for both pedagogy and genetic psychology. They urgently invite reports of any attempts to utilize the doll material for pedagogy.

In the next article Mr. Small prints by far the most concrete study yet made of suggestibility, imitation, fads, etc., among children. Few researches yet made in all the wide field of child study are of more immediate interest and practical usefulness for teachers. To my own mind, its facts and illustration have rare features and suggestiveness.

Printed in Germany

Mr. Dawson's paper—Youthful Degeneracy, presents a topic every teacher should ponder who is interested in the larger and more philosophical aspects of moral education. It presents the results of a long and pains-taking and detailed study of carefully selected typical cases of young degenerates, made not only at institutions where they are cared for, but even entertained for some time and with much personal inconvenience at the author's home for closer acquaintance. He has certainly presented new aspects of a subject which is sure to play a rôle of growing importance in the pedagogy of the future.

The original papers, which in the last number crowded out notes and reviews, greatly encroach on them in this, so that they still have far less than their usual space.

Mr. Louis N. Wilson, now acting as publisher for both journals, has prepared, in response to frequent inquiry, a list of all the leading original articles on Child Study which have appeared in the *American Journal of Psychology*, and in the PEDAGOGICAL SEMINARY, and appended others nearly ready, which will appear in the early future. This list comprises in all thirty-five papers, averaging about thirty pages each. In general the editor has printed child-study work in which the scientific and psychological side predominated in the *Journal*, and that of immediate pedagogical worth in the SEMINARY. This distinction, however, is a very uncertain and fluctuating one. The time is still a great ways ahead when any general treatise on this subject can be written that will have anything more than ephemeral value, and that will not be sure to mix harm and error in large proportion with good and truth. The text-book compiler and premature theorizer, however, we always have with us, and this list, if utilized, may aid a little in making the best of the inevitable.

A STUDY OF DOLLS.

By A. Caswell Ellis and G. Stanley Hall.

Dolls have so long been one of the chief toys of children, and are now so nearly universal among both savage and civilized peoples, that it is singular that no serious attempt has ever been made to study them. The topic of this paper is not only relatively new, but the field it opens is one of vast complexity, many sided interest and of the greatest significance, both for psychology and pedagogy. When a thoughtful mother asks what is the best form, size, material, amount of elaborateness or mechanical devices, dress, paraphernalia, degree of abandon in doll play, proper and improper imitations of human life, whether doll play was instinctive with, and good for boys as well as girls, or for any generalizations concerning dolls' names, doll families, dolls' diseases, the age at which the doll instinct is strongest, when it legitimately declines, whether paper dolls precede, follow or coexist with dolls of three dimensions, doll anatomy, doll psychology, the real source of the many instincts that are expressed in doll play, its form among savage races, whether it is related to idolatry, and if so, how ;—for answer to nearly all these problems, one would search the meager and fragmentary doll literature in vain. Indeed, this paper, imperfect as it is, is the first to call attention to the importance of a strangely neglected, new, but exceedingly rich psychogenetic field.

It was considerations like these that led one of us (G. S. H.), after a careful preliminary survey, based on informal examinations of many children of different ages, in which he was greatly aided by Miss Sara E. Wiltse, to print and circulate among about eight hundred teachers and parents the following questionnaire:

The data desired are juvenile feelings, acts, or thoughts towards any object which represents a baby or a child.

1. Describe your dolls and get children to do the same; whether of wax, rags, paper, pasteboard, rubber, china, wood, stone, etc., and give instances where clothes pins, nails, bottles, vegetables, sticks, flowers, keys, button hooks, etc., have been regarded as dolls in any respect or in any degree.

2. Feeding. What foods, liquid or solid, and how are they given. Describe imaginary foods, dishes, spoons, and other utensils. Is there any regularity or system in feeding, and are hunger, starvation, food preferences, or growth imagined.

3. Medicines, diseases. What diseases, pains, symptoms are imagined. How is sympathy shown. What drugs are given. How, and

with what conceptions. Imaginary doll doctors, their visits and functions. Surgical operations, etc.

4. What constitutes the death of a doll. Funeral services, and burial of dolls. When lost or crushed do children assume a future life for the doll, and does this assuage their grief.

5. Give details of psychic acts and qualities ascribed to dolls, and show how real, how treated, etc., are their feelings of cold, fatigue, anger, pain, jealousy, love, hate, goodness and badness, modesty, tidiness, etc. Is any individuality or moral or other characters consistently and persistently ascribed to dolls.

6. Dolls' names. Are they of real persons, and if so, is there any resemblance real or fancied.

7. Accessories and furnishings, toilet articles, clothes, beds, tables and dishes, trunks, fashion and its changes, toys for the doll, etc. How far in fact are these carried, and how far should they be. What dangers if any here.

8. Doll families, and the relationship of the members, doll schools, doll parties, balls, entertainments, weddings.

9. Doll discipline, hygiene and regimen. What toilet and what rewards and punishments are usual, and what moral qualities are aimed at.

10. Dolls' sleep. How are they put to sleep. What are the favorite lullabies, and does the doll's sleep keep the children good and quiet.

11. Dress. What is the influence of dolls upon the children. Can taste in dress, tidiness, thoroughness in making their clothes, or other moral qualities be cultivated. How does the material of which the doll is made and the degree of life-like perfection react on the child. Is there regularity and persistency in the care of dolls. Is imagination best sti nulated by rude dolls, which can be more freely and roughly used. Are children better morally, religiously, socially, or better prepared for parenthood and domestic life by them. How can the educational value of dolls be better brought out.

The above points are intended to be merely suggestive, and are of course far more comprehensive than any returns are expected to be.

Read this syllabus and write down with accuracy any facts which memory or observation may suggest, carefully specifying age, sex and nationality.

Or, if practical, question children, or if in a normal school, let teachers take this syllabus as a lesson on the blackboard in the psychology of childhood, and each record memory or observation.

Returns addressed as below will be carefully edited, credited, printed.

G. STANLEY HALL.

Clark University,
Worcester, Mass., Nov., 1894.

This brought the following returns: Miss Lillie Williams, State Normal School, New Jersey, 203 papers; St. George's High School, Edinburgh, Scotland, 67; from Miss Jennie B. Merrill, New York city, 53; N. Y., 105; Miss S. E. Wiltse, 26; Miss Mary White, 18; and 176 from miscellaneous sources, making in all 648. These returns were of very varied degrees of merit. Some were long letters of reminiscence by adults, others were observations by mothers and others, of the doll history of individual children. Others were school compositions by pupils of High and Normal schools; 94 boys are reported on,

the rest are girls; 96 are reminiscence, the majority of all were written by females between 14 and 24. Altogether, this constituted a stack of thousands of pages of manuscript. After a considerable time spent by both of us in a preliminary survey of this material, it was decided that, intractable as it was, and lacking in uniformity, it merited as careful a statistical treatment as could be given it, and this laborious task was finally undertaken by one of us (A. C. E.), who also conducted quite a voluminous correspondence, gathered the literary references with careful epitomes thereof, selected and condensed typical cases from the returns, preserving every salient phrase and incident, and issued the following supplementary syllabus to get better statistical results:

Will each person receiving this, kindly answer, briefly, on this paper and return it to the address below? State age and sex.

1. Did you ever play with dolls? 2. Did you especially enjoy it? 3. About what age did you begin and stop? Age in figures. 4. Did you ever play with paper dolls? 5. At what age did you begin and stop? 6. Did paper dolls dull your interest for other dolls? 7. Did you ever play with anything else as a doll, such as a cat, pillow, vegetable, stick, clothes pin, etc.; either dressed or without dress? 8. Did you enjoy this as much as your real dolls? 9. Had you plenty of child companions? 10. Did you prefer playing with dolls alone or with other children? 11. Did you prefer old and well-used or new dolls? 12. Between the ages of one and six did you prefer large or small dolls? 13. From one to five did you prefer your doll to be, and be dressed as, a baby, child or adult? 14. Between five and ten did you prefer baby, child or adult? 15. Between ten and fifteen did you prefer baby, child or adult? 16. Did your love of dolls grow out of love for a real baby? 17. When you stopped playing dolls was it because your love was transferred to a real baby? 18. Why did you stop playing dolls? 19. Describe your favorite doll, or any other, if you had no favorite. 20. How did you chiefly punish dolls when you were under six? 21. How when older? 22. At what age did you first play that dolls died? 23. Did you ever try to feed dolls? 24. Did you ever think your dolls were hungry? 25. Did you ever think your dolls were sick? 26. Did you ever think your dolls were cold, tired, hungry, good, bad, jealous, loving you, hating any one? 27. Which of the following ways of playing with dolls were your favorites; (1), Dressing and washing, or sewing for dolls; (2), Feeding; (3), Nursing; (4), Funerals or burials; (5), Doll parties, weddings or schools; (6), Punishing; (7), Putting to sleep; (8), Making imaginary companions of your dolls to talk with and tell your secrets, or to build air castles with? 28. Do you know a mother now very fond of her children who was not fond of dolls as a girl? 29. Do you know a woman who was very fond of dolls but is not now very fond of children?

A. CASWELL ELLIS,
Clark University,
WORCESTER, MASS.

June 1, 1896.

In answer to this returns were received from many sources as indicated in table I.

These latter returns were given to Dr. Hall, under whose supervision they were tabulated, and to whom Mr. Ellis's tables, correspondence, digests, conclusions, suggestions, and everything else were turned over, and who must, therefore, bear the responsibility of the attempt herewith made to present such account of all these varied data as he is able to do under limitations of both time and space, which are such as leave much to be desired. He has also freely added inferences, data, etc.

I. Material of which Dolls are Made, Substitutes, and Proxies.

Of 845 children with 989 preferences, between the ages of three and twelve 191 preferred wax dolls, 163 paper dolls, 153 china dolls, 144 rag, 116 bisque dolls, 83 china and cloth, 69 rubber, 12 china and kid, 11 pasteboard, 7 plaster of Paris, 6 wood, 3 knit, with a few each for papier maché, clay, glass, cotton, tin, celluloid, French, Japanese, brownies, Chinese, sailor, negro, Esquimaux, etc. Many children giving several as equally desirable or their preferences have changed and many prefer the substitute to the real doll.

We have grouped as substitutes objects used and treated by children as if they were dolls. Such treatment always involves ascribing more or less psychic qualities to the object, and treating it as if it were an animate or sentient thing. Nothing illustrates the strength of the doll instinct and the vigor of the animistic fancy like the following list of doll substitutes: In answers to the first syllabus, pillows were treated as dolls by 39 children, who often tied strings around the middle of the pillow, using a shawl for the skirt; sticks 29, these sometimes dressed in flowers, leaves and twisted grass; bottles 24 filled with different colored water and called different people, some with doll head corks; cob or ear of corn 19 (red ears favored, corn silk for the hair, a daisy perhaps serving for a hat); dogs 18; cats and kittens 15, shawls 14, flowers 12, clothes pins 11 (one a sailor, one a woman, sometimes both, used as servants), blocks 9, children 7, pieces of cloth 7, daisies 6 (taking off all but two petals, marking eyes, and making grass mothers), newspapers 6, stuffed elephants 6 (seemed like a real baby), clothes pegs 5, peanuts 5, sticks of wood 5, apples 4, clay pipes 4, kindergarten material 4, handkerchiefs 4, mud and clay 4, chairs and stools 3, buttons 3, potatoes 3 (one end the head, with eyes, matches used for arms and legs), wish bones 3, ninepins 3, squashes 3, toothpicks 3, vegetables 3, yarn strings 3. Two each are the following: acorns, aprons, bootjacks, feathers, doughnuts, cucumbers, spools, shells, pumpkins (dressed in own

clothes), towels (knotted in middle), rubber balls, brooms (dressed in bolster case), nails, bed posts, sticks of candy (dressed), button hooks, keys and umbrellas.

One each are the following: box, jug, coat, orange peel, cribbage peg, chicken, whisk broom, board with face painted on it, croquet ball, dish top, finger of a person dressed as doll, hand dressed as doll, with thumb and finger wrapped up for arms, water bottle, celery, one corner of a blanket (the other was mother), log, shoe, curtain tassel, roll of batting, bundle from the store, turkey wing named Dinah, washboard (two legs, so much like a man), wooden spoon, weed, piece of lath, salt bag stuffed, fish, piece of Porter house steak, sweet potato, stuffed stocking, stuffed cat, hitching post (so dressed up as to scare horses), stick of stove wood, tongs, toy monkey, radish, scissors in a spool, sheet, shoulder blanket, stone block, spoon, petunia (push stem through for head and neck), pin, pronged stick (looked like arms and legs), linen book rolled up and marked, knife, fork and spoon (called servants), knitting needles, lead pencil, half burned matches (black for hair), marbles, oranges, pen-holder, beets, grapes, (pulps for heads, splints for arms and legs, set sailing in cucumber boats), geraniums, green peaches (with pins for arms and legs), gate posts (by a party of children), gourds, hickory nuts, hollyhocks, horse-chestnuts (pins for arms and legs), cuffs rolled up, dress folded, fuchsia, feather, forks, glass, corn husks, beans, berries, cradle quilt, carrot, crochet hook, hair brush, cane, cricket, clamp, carpenter's plane, axle of toy cart, a bench, books, balls, bric-a-brac, bleeding heart petals are clothes and the rest a lady sailing in rose leaf boat with hair of corn silk, bit of rope, and of earthen.

In reply to the supplementary questions, out of 579 children, 57 had used a cat as a doll, 41 clothes pins, 26 sticks, 21 vegetables, 20 a pillow. Only 26 of all these were boys.

As an instance of flower dolls one correspondent writes I often took pansies for dolls because of their human faces; the rose I revered too much to play with, it was like my best wax doll, dressed in her prettiest, but always sitting in state in a big chair in some secluded corner where little visitors would not spy her out. I loved these nature dolls far better than the prettiest store dolls and ascribed special psychic qualities to them. The hepaticas seemed delicate children to be tenderly cared for but which soon drooped and faded. Violets were sturdy little ones which enjoyed a frolic and could be played with. The pansy was a willing, quick, bright flower child, the rose her grown up sister, pretty, always charmingly dressed, but a quiet and sedate spectator. Violets were shy, good natured children, but their pansy cousins were often naughty and would not play. The hepaticas were invalids and cripples who watched their livelier brothers and sisters and were entertained by stiff maiden aunts, marigolds, with long curls. The dahlias were colored servants and mammies; yellow violets mischievous, fun-loving boys; sweet peas were the nurses with cap and kerchief on; the morning glories were governesses and teachers. I

often made little boats to give my flower dolls rides on the river. We built harbors, but in rough weather so many lives were lost that our pleasure was marred.

In kindergarten, a teacher writes: nothing interests the little girls so much as to take sphere, cylinder, or cube, wrapping them in handkerchief to have "a baby," putting it into the long box of second gift for the cradle; the boys often share this play.

A girl of 3 lavished her affection on a rude wooden foot stool. It was set on end, its legs were arms and feet, and it was dressed, named stooly, nursed when sick, taken to bed and table, taught to read and write, fed, and various parts of the body imagined. A scratch on the joint was a sore. A child of 2 did the same with an old red slipper; another with a bottle with cork head, eyes, necklace; another with a bit of Parian marble; another with a covered brick, till her mother fancied living things grew uninteresting. My own boy had a long craze for a big stuffed elephant and for a stove hook.[1]

Mud dolls are sometimes sick at first, but when dry are well. A shawl doll had no heart, so a ball was put in its folds so it could live and love.

Colored dolls sometimes need no clothing, "because they are so black nobody can see." A colored doll may be specially liked because others hate it, but fair hair and blue eyes are the favorites. When detected in "dollifying" very intractable objects children often show signs of self-consciousness and even shame. Besides the good and bad looks, dress, etc., of dolls, there are other influences that mediate likes and dislikes that we are not yet able to explain. A bottle resembled its giver and so took his name. Complimentary or uncomplimentary remarks of others often have much to do, but dispraise seems almost as apt to increase love as to diminish it. Real or fancied resemblance to people liked or disliked is a factor, and so is the feeling for the person who gave the doll, but why some dolls get all the whippings and others all the favors it is often very hard to ascertain.

The rudest doll has the great advantage of stimulating the imagination by giving it more to do, than does the elaborately finished doll. It can also enter more fully into the child's life, because it can be played with more freely without danger of being soiled or injured. With rude dolls, too, the danger of both hypertrophy and of too great prolongation of the doll instinct is diminished. As between large and small dolls it would appear that dolls of from four to twelve inches are more common, and that interest in very large and very small dolls is later and less normal. It is against large, elegant French dolls which teach love of dress and suggest luxury, and against dolls with too many mechanical devices, as for winking, walking, speaking and singing, that the Russian Toy Congress has so strongly protested. Rather small and durable dolls, soft enough

[1] PEDAGOGICAL SEMINARY, Vol I, p 135-6.

not to hurt, flexible, with two or three colors and not more than two or three plain garments, along with plenty of hints regarding clothes pins, flowers and other varied material;—something like this seems to be the suggestion for a first doll, with increasing variation in size, material, elaborateness and number till the doll passion vanishes in two dimensions, with innumerable paper dolls, towards adolescence.

Dolls are often said to grow, more commonly large, but often when the owner is growing fast the doll grows small. A doll that squeaks is said to talk; a coat of paint is a dress; pictures of dolls sometimes take the place of dolls themselves; new babies are sometimes treated as, and even thought to be, dolls; children who have no proxies are few, and those who never played with dolls exceedingly rare. For dolls' hair, hemp ravellings, wool, split grass, corn silk, bits of fur, shavings, one's own hair, feathers, hair painted on are used, and combing and dressing dolls' hair is a favorite occupation. Toilet accessories for this purpose are infrequent. Eyes are often made of buttons, seeds, pins; rings are painted or inked on; the brow is less cared for, but eyes that open and shut are greatly desired. Although the first feature to appear, young children care far less for eyes than for the softness and flexibility that appeals to touch. Open eyes are sometimes covered with bits of paper when the doll sleeps, or "to make it dark." The oldest child often cares less for dolls or is interested in them later than the younger children. Dolls may lose the head, limbs or body, and if they are replaced, generally, though not always, retain their identity. The first doll is sometimes remembered with peculiar interest. The function of joints suggests several interesting psychological problems, regarding movement, will, expression, etc. A doll that can be taken everywhere as well as treated every way is a sure favorite. Cut-out pictures of the most varied things play an important rôle. Interest in school and books has an important influence on the doll passion, often eliminating it. Almost every conceivable whim and freak is illustrated here. Dolls that can be washed all over are often favorites.

Children are often under a long delusion concerning the material of which dolls are made. Even long after it is *known* that they are wood, wax, etc., it is *felt* that they are of skin, flesh, etc. To find a doll's head hollow or that it is sawdust, while it suggests to very young children the same as contents of their own body, is with older children a frequent source of disenchantment and sometimes marks the sudden end of the doll period. In some cases allowances for the doll's moral or physical disabilities are made on account of the material of which they are found to consist. Wooden dolls will not bend; so are

obstinate. Babies are differentiated as "meat dolls," but the differences of temperature are noted with strange rarity. It is singular how slow and late children learn what the "hard things" under their own skin (bones) are, and how easily, after a trifling injury, they think the body a bag of blood, or somehow get the impression that they are blown up and grow by inflation, or are themselves full of sawdust or of stomach, which fills even arms and legs. Discussions with skeptical brothers, who assert that the doll is nothing but wood, rubber, wax, etc., are often met with a resentment as keen as that vented upon missionaries who declare that idols are but stocks and stones, or, to come near home, upon those who assert cerebral, automatic or necessitarian theories of the soul.

In our returns curly hair is preferred to straight, red cheeks are a special point of beauty as are red knees in fewer cases. Boy dolls are only about one-twelfth of all, and it is remarkable how few dolls are babies, rather than little adults. Children are very prone to focus their interest upon peculiar slippers, shoes, the upward or downward look of the eyes, some peculiar turn and carriage of the head, some cute expression, "like a clown," "funny as if it was going to cry or shout," "stuck up," "smiling," "sweet," "tanned," etc. Some particular dress, name, complexion, or even defect is often focussed on. Aversions follow the same rule.

Of 579 answers to questions 13, 14 and 15 of the supplementary paper, 463 reported for the age below five as follows: 266 preferred babies, 126 children and 71 adults. From 5 to 10, 314 reported, of whom 105 preferred babies, 159 children and 50 adult dolls. From 10 to 15 years of age, 45 reported a preference for babies, 64 for children and 32 for adults. On the whole, babies were thus preferred 416 times and children and adults 502 times. Children lead babies after the age of five, the ratio of adult dolls increasing with age. Boys' dolls are least often infants. Among 45 feeble-minded girls the ratio of dolls as babies is highest.

Out of 579 answers to the second questionnaire, 88 mentioned preference for blue, 27 for brown and 8 for black eyes. As to hair preferences 118 mention light, 62 curly, 27 dark, 8 real, and 5 red hair. While 15 mention love for red cheeks, 7 nice teeth, 8 pretty hands or feet, 3 red lips.

Some children have a strong preference for old dolls, however ugly, and are indifferent to new ones, however fine; some love and some hate heirloom dolls. Some have sudden changes of affection; an old doll that has been long loved is perhaps suddenly repelled, thrown or given away, or even burned, and a new favorite chosen. Some never like lady or Japanese dolls, but their affection has a very limited range. Children with

many dolls often have one for Sunday or one is queen, mother, or teacher; some profess to be absolutely impartial, loving all their dolls exactly alike. Often a sudden craze for doll dress-making, hair combing, fantastic buttons, very small or very large dolls, shoes, hats, movable eyes, are reported, suggesting something akin to Kraft-Ebing's fetichism on the one hand, and the strange focussing on single features of face or dress seen in children's drawings on the other, and indicating how psychic growth tends to focalize, now in this, now in that direction, as is seen again in Mr. Small's study of school fads.[1] This we consider a point of great importance and suggestiveness for school work when fully wrought out. Mind may have its nascent periods like the body. Now interest centers on hair, which must be in long braids, or otherwise done up, or be worn short, parted sideways, banged. Now it is a fat, round, baby face, plump red cheeks, teeth, pretty neck, joints, that are doted on. So it is with articles of dress, etc.

II. Psychic Qualities.

The following psychic qualities are ascribed to dolls in the order of frequency of their recurrence, the figures indicating the number of cases: good 97, cold 54, jealous 46, bad 45, angry 38, naughty 36, loving 35 (bad and naughty together, equalling 81, should, thus really, be second in order), tired 33, crying 18, feels 16, pain 27, clean 15, feels warm 12, sleepy 12, tidy 12, cross 10, hungry 8, quiet 6, proud 6, sorrowing 6, mischievous 6, feeling hurt 6, stupid 6, modest 4, lonesome 4, kind 4, desiring something 4, dirty 4, patient 4, taste 4, seeing 3, talkative 3, obedient 3, smell 2, truthful 2, thoughtful 2, sly 2, stubborn 2, "sassy" 2. The following psychic qualities were fully brought out in one case each: comfortable, contented, cleanly, blushing, honest, gentle, frightened, ill at ease, lady-like, making faces, sings, scolds, sneers, full of life, troublesome, too thoughtful, pure, proper, moral, lying, well educated, religious, prone to run away, democrat, presbyterian, rich, baptist, idiotic.

Of the 579 answers to the supplementary syllabus, question 26 foots up as follows: 230 children thought their dolls good; 202 thought they felt cold; 185 that they could love; 183 that they felt tired; 161 that they could be hungry; 135 that they were sometimes bad; 77 that they were jealous; 58 that they hated. The smallest proportion of girls ascribing these qualities to dolls were over 13, and next least come the feeble-minded children.

Although these sixty-five terms can hardly be designated as

[1] See next article.

so many qualities, they, too, open a rich field for psychology. Interesting essays are waiting to be written on such topics as modesty for dolls, what constitutes their goodness and badness, its relation to good and bad looks, being good and bad all the time and alternating, doll penalties, their sense of fatigue, their power to sit still, their stupidity and obstinacy, their propensity to sleep or be wakeful, their affection, etc. Out of 45 children specially cross-questioned, aged six to eight, 8 boys and 22 girls, thought dolls felt cold, 1 boy and 13 girls thought not. Out of 34 children of the same age 4 boys and 18 girls thought dolls felt tired, 2 boys and 10 girls thought not. Out of 48 children of the same age, specially questioned, 3 boys and 8 girls thought dolls got angry, 6 boys and 25 girls said no, and 6 were in doubt. Of 45 children asked whether their dolls loved them, 10 boys and 29 girls thought yes, none no, 6 did not know. Of 45 children questioned 1 boy and 2 girls said dolls hated some one, 8 boys and 24 girls thought not, 2 boys and 8 girls were in doubt. Psychic qualities are often suggested by looks, dress, or fancied resemblance to some one thought to have good or bad qualities, while colored dolls, brownies, German, Chinese and other dolls are often fancied, especially by boys, because they are "funny" or exceptional.

Almost all doll play involves the assumption of psychic qualities, but a few illustrations are added:

F., 18 (girl 18) writes: I went to dolls with all my childish trials and felt relieved when I had poured out my heart to them. F., 16, I supposed they were real children and would talk to them and laugh. F., 15. Her name is a real person's name, and she is just as real to me as a real baby. F., 16. I thought my dolls had the same feelings as persons. Another writes: My dolls were my most sympathetic friends and had all my confidence as no one else did, nothing would keep me still longer than to have a doll to talk to. "I had a great habit of describing all things to my dolls." "My doll and I were great comrades, I talked over everything, and it was pleasant to think her a companion like myself, although I never lost sight of the fact that it was only china." "I was so fond of dolls that I cared little for children's company." "All stories that I heard were told over to my dolls." F., 17. "How would you like to be thrown down like that?" (F., 7). "Dolly was very angry when I wouldn't let her go to see the other children;" "I knew that my dolls had vitality and mind;" "my baby doll gives me no rest day or night, she is better if I take her out." F., 11. "When I found dolly laying out on the ground I thought I could see tears in her eyes, she was so hungry and cold." F., 14. "Two of my dolls had their heads broken off, but this made no difference in my treatment, for they seemed endowed with life and feeling." "One day we were invited to a party, and I would not let Rose (dolly) go, because she had been naughty, but she cried so, and said she would be good, that I let her go." F., 12. "Dolly had been naughty, and instead of taking her out to ride, I made her sit in a chair all day." F., 11. "A fifth grade girl would kiss and 'poor' her doll after spanking her, but once, after a specially severe punishment, was filled with remorse for days." "I talked to my doll as

if it could hear, and thought it could." "I thought my dolls were real, but they were n't."

When three, M. was given a doll, which she cherished till arms, legs, and hair were gone, and it was a painful sight, and her mother burned it; though she had plenty of others far prettier, she cried all night and almost all day. Her intense grief lasted a week. Three years afterward I asked her where Alice was; she began to cry and said: "Why did you burn it, I loved it so, and she loved me. She is in God's house and sometime I will see her." "One Sunday dolly soiled her dress, and F., 4, asked if Goddy would care if she washed it, so it would be clean Sunday. That night she prayed forgiveness, saying to God, that is your own day, you know, and she must be clean. Then dolly had to pray for forgiveness for soiling her dress and making Sunday work." F., 8. "My dolls can educate their minds in school. They are too young to marry. I am afraid they would get tired, or sick, or hungry. They like fruit and oat meal for breakfast, soup and milk for dinner." "My cousins would get and talk to my doll and report her answers. It hurt me that she should talk to them while she never would to me, and I would gaze at her expectantly when I got her back, hoping she would some day open that rigid mouth and talk to me." "One night my doll was accidentally left outdoors; it stormed, and I lay awake and cried, thinking she would be just as frightened as I would. For days after it was found I watched anxiously, fearing sickness." "I cried when my doll was found with cracked cheeks, because I thought it hurt her." "F., 11, brought home from Europe a German doll, with whom she would speak only German, because, as she said with all seriousness, dolly could not understand English. German was hard for the girl to speak." "I thought my doll had only the sense of sight, and when I doubted that, asked my mother, who said she could see as well as other dollies. Then I knew she saw, though I thought not so well as I." "Once the mice gnawed dolly and let bran out. She then became an invalid, confined to her bed, and I loved her most of all." "F., 4, was very fond of pretty things and hated what was ugly, yet, with many pretty dolls, her heart was wholly given to a clumsy old green cricket. This she called dear dolly, would carry it tenderly in her arms, pat, kiss and rock it. When her father once put his feet on it, she caught it up, saying: Oh, don't! you did n't know it was my dolly. She could not sleep without it in her arms." "Rose, a rag doll, had been stolen, returned and hid in the attic by the mother, fearing disease. F., 4, wondered, and soon made a new use of the doll's personality. If reproved, would say, Rosa told me I might, or Rosa broke it." "F., 5, woke in the middle of the night crying because she missed her dolly, fearing some big ki-i had got her." "When brother set the dog on my doll, it was so badly torn that I put it in a box and had a funeral. We cried real tears, but at night it pained me so that I went alone and dug her up, kissed, hugged her and said I was sorry."

"My bisque doll cracked one eye. I pitied it, especially as my eyes were sore, but resisted having a new eye, because it would not be the same doll. I never could think my dolls could be annihilated." "I hope my dolls don't see their Christmas presents beforehand." "F., 12, cut off her Japanese doll's hair, so she could never go back to Japan." "F., 6, cut her doll's hair, thinking it would grow again." "F., 12, said to her dolly: There, I have fixed baby's hair and she did n't cry, can't you be as good?" "One of my dolls, Belle, had a splendid wardrobe. I thought all my other dolls jealous, so I was especially kind to them in her presence, so she should know, despite her fine clothes, I loved them all alike. I sometimes saw her sneer."

"A boy, 7, screamed, saying: 'Mother mend the doll's leg,' thinking such surgery painful." "F., 13, would put molasses on doll's mouth, and then punish her for stealing it." "F., 13, knocked Chinese doll against a window for crying and broke it." "F., 9, sings dolly to sleep with their favorite songs." "F., 4's dolls are good or bad as she is. If corrected for bad language, her dolls use it." "F., 11, said: dolly was never on the cars to enjoy it before, but always went in the trunk." "F., 3's dolly often wants to go to the water closet, and is tenderly put on the stool by her little mother." "When my doll's foot was broken off, I thought it hurt, but would grow." "F., 6, has great fears her dolls will feel lonesome." "F., 4, said: now dolly, I would like to give you a bath, but I must go up and see that other baby bathed, the real one, you know." "F., 4. Will my dolly ever grow up to be a lady doll?"

III. Doll's Food and Feeding.

In our returns 90 children fed their dolls with both liquid and solid food, 75 sat at the doll's table, 68 touched food to the doll's lips and then ate it themselves (some speak of chewing it for the doll or put in doll's hand to make believe she eats it), 45 give it milk (16 of whom imagined water to be milk, and then played nurse the doll in natural way), 36 distinctly imagined the food, 33 set the dolls at table with themselves, 31 imagined or pretended growth, 8 of whom were positive the doll grew, thinking dresses grew short or pulled doll's legs and found her to measure more, 29 say they never fed dolls or that they can't eat, 23 touched food to doll's lips, then threw it away or put it in doll's mouth and took it out again, 19 distinctly imagined hunger, 19 declared that dolls preferred certain kinds of food to others, 15 were strenuous in urging real hunger, 2 said the dolls looked hungry, 9 thought them hungry when they were so themselves, 13 poked food inside the doll's heads, where sometimes it accumulated and spoiled, 1 broke doll's tooth trying to get it in, 1 broke a hole to do so, 12 really put liquid into the doll, 1 had a rubber ball in the back of the doll's head to squirt it out, 13 reported spells of great regularity in feeding, 11 constant regularity, 9 used only liquid food, 7 only solid, 6 imagined they ate without any agency of the child, 7 used empty plates and imagined the food, 6 thought some foods especially disagreed with dolls, 11 seemed to think dolls really starved if not fed, 6 gave foods according to the age, 3 put the food down the neck of the doll's dress, 4 poured liquid food on the front of the dress, 8 always gave the dolls the same food as they had, 1 saw a healthy look in her doll from having slept and eaten well.

The following foods are mentioned also mostly by children between the ages of 5 and 11: milk 88 times, bread 75 times, cake 62 times, water 45, candy 33, crackers 27, potatoes 19, tea 18, meat 15, sugar 13, pie 13, fruit 13, apples 12, butter 9, ice cream 8, cookies 7, all kinds of food 7, mud pies 6, coffee 5, sweet-

ened water 5, dirt 3, ginger bread 3, grapes 3, nuts 3, strawberries 3, biscuit 3, apple juice 2, puddings 4, oranges 4, salt 4. The following were mentioned by 2 children: apple sauce, chicken, chalk and water, flour and water, gravy, cheese, chocolate, eggs, flowers, fish, mustard, lemonade, leaves, jelly, sand (for food, for flour, for sugar), soup, sweets. The following were mentioned once each: canned corn, blacking, beefsteak, buttons, brown paper, brick dust and water, boards in thin slices, beans, acorns, cocoanut, custard, cocoa, cinnamon water, crumbs, cream, flour, grass, green fruit, grasshopper (used as roast turkey), jumbles, lime, mush, mucillage and water, orange juice for soup, pears, pickles, pancakes, peaches, pictures of food (for paper dolls), rice, roast beef, starch and water for milk, also sticks, stones, sawdust, seed (in bottles for canned corn), soft food, soap suds, vegetables.

Some children put food on the floor near the doll, others think it tries to eat or move the hand toward the food, forgets to eat, prefers cup, bottle, spoon, plate, glass, or to eat with fingers. Some are fed only when children play house, or Sunday mornings, or on coming home from school, or Saturdays, or going to bed, or between meals or once a day. Out of 49, 19 say positively that dolls are never hungry, 14 are positive they are, 16 are in doubt, some think they are hungry all the time, others not often, or sometimes, or may be, or guess so. Out of other 49, 18 think dolls will not starve if not fed, 17 think they will starve if not fed, the others are divided.

F., 30, never allowed dolls to drink coffee, for it made their skin dark, she fed imaginary milk (water) in a real bottle. F., 20. My paper dolls were always fed by picture food. F., 17. I have spent hours trying to feed my dolls. F., 50. My dolls always went with me to the country, because they could not get out of the doll house to buy food. F., 26. I fed one doll regularly until I found she would not grow, then only when I happened to think. Another preferred to feed liquid food because she liked to use a spoon. F., 6, gives dolls flowers to smell for dessert. F., 10, says, once dolly got hungry and asked me for food. I fed liquids on a bib, thinking babies soaked it up that way. F., 10. I feed dolly at table when no one is looking. F., 49. I put food on doll's mouth till it was dry, and thought the doll sucked out the juice. F., 6, uses doll biscuits, offering them first to the doll, then eating them herself. F., 4. When her doll's head was knocked off, cried till uncle said he would fill it with meal before fastening it on, then thought she would get enough to eat and be well. F., 14, squeezed everything she could into a small mouth opening, fixed so it came out at the back. F., 21. I used to worry lest I should not feed my doll and it would starve. F., 4, punished her doll by making it eat dirt, stones, coal, etc. F., 14. I used to beg candy for my doll, hold it to her mouth, and when no one was looking, slip it in my own. F., 15. I fed dolly a great deal, because it was fun to wash her bib. F., 10. If I forgot, I fed them double quantity next day. F., 4, wants to feed everything that tastes good to her black rag doll. F., 10, used to imagine both dishes and food, but later, thought

dolls took care of themselves. Another writes: I held food long to doll's mouth so she would have time to chew it fine, then put it on another plate, and repeated this with piece after piece. F., 10. I broke out some of doll's teeth, pushing in food with pin, and she was very sick. F., 6, does not like dolls that talk, because the fixings in the stomach are not good for digestion. F., 12. When quite young, I knew doll could not open its mouth, so I would hold it there awhile and then gradually slip it down the neck. F., 15, imagined her doll to cry with pain when the tea was too hot. An English Principal writes: I know a boy of five who half starved himself to feed an old nut cracker in the usual form of Punch, with a big nose, and a mouth worked by a handle in the back; this lasted weeks, but was concealed. He since said he felt this figure a member of the family, and vaguely thought his life was sustained by feeding Punch. F., 38. I always thought each doll did not grow, but expected the next to be bigger, because older. My doll grew to 5½ inches, then stopped; this worried me, so I sent her up garret to stay till taller. F., 38. I was so sure my doll grew that I had large hems put in her dresses. F., 4, thinks doll's dress tight after feeding.

Dolls are weighed, and a few days later shot and stones sewed in their clothes so they will weigh more. Children say of foods they especially like or dislike, that it is good or bad for their dolls. They often have recipes as: "flower, salt, sugar, milk, baked till brown." Sometimes the table ceremonies are elaborate, including grace, comments on food, courses, etc. At Thanksgiving dinners, blocks are (play) boiled for turkey, round things for pies and cakes and the rest pictures. When the food is not wholly imaginary, crackers may serve for every solid, and water for all drinks. Toy cook stoves are a great boon to children during the brewing and cooking age. If children eat too much or prefer the wrong kinds of food, dolls are accused of doing the same thing. They are counselled not to eat too fast, nor to be greedy nor slobber. If dolls are sick they must be fed accordingly. With some children the fire, stove, wood, dishes, and food, are entirely imaginary; but more commonly something is imagined to be something else which it more or less resembles. Leaves and chips are plates, sticks are for spoons, bits of broken crockery are whole dishes, pieces of paper, petals of flowers, even figures on the carpet are dishes, so are shells, flat stones, acorns are cups and saucers, clothes pins are sugar tongs, and napkins and every kind of table furniture is parodied. Soap suds is ice cream, mud is chocolate cake, brick dust and water is tea, salt is imagined to be sugar, and sugar salt. Many kinds of seeds, buds, etc., are used. A barn-yard weed has a tiny pod called cheese. Flag-root and pods, birch-bark, nuts, the honeyed ends of clover, honeysuckle and other blossoms, green fruit, peppergrass and many other things, are used as dolls' food, and sometimes children are injured by eating what only their imagination makes wholesome.

IV. Sleep.

329 papers speak of dolls' sleep. Most of these children are between 6 and 11, 90 mentioned keeping others quiet while the dolls slept, 76 rocked it in arms and sang to put it to sleep, and 76 put it in bed and did so, 55 rocked it to sleep without song, 37 used cradle and song, 33 took doll to bed with them, 12 expressly insist that the doll really slept, 7 never put dolls to sleep, 3 shut the eyes of mechanical dolls only and called that sleep, 5 said made no difference to dolls whether there was quiet or not, 10 had dolls say prayers, 2 said only dolls which closed eyes could go to sleep, 1 covered the eyes with paper, 4 rolled it in baby wagon, 7 jumped or trotted it, several told a story, others rock it in a hammock, have it in the dark, shut it in a trunk, or think it sleeps mostly when they are not present, 52 lullabys are named, rock-a-by baby leading all the rest, being mentioned 29 times. Others more often mentioned are the following: Hush, my dear, lie still and slumber; Bye baby Bunting; quite original lullabys; La, la, la; By-lo; Mother Goose rhymes; Sweet and low; while others mention The Bowery; sacred songs; kindergarten songs; Hush-a-by Baby; Wee Willie Winkle; Shut your eye, do not cry; Moody and Sankey songs, with exceptional things, like Rocked in the cradle of the deep; German songs; Slumber song; selections from Pinafore and other popular operas; Comrades, and many others.

F., 10. I rock dolly and sing, and if this does not succeed, I walk the floor with her. F., 10. Undressing and putting dolly to bed was the best play of all. Another says: I took my doll to bed with me nights, and put myself to sleep, trying to keep quiet, so as not to disturb her. Another says: I was always quiet, walked on tiptoe and talked in a whisper when dolly slept. F., 15. Nights I undressed my dolls, put on their night clothes, had them say their prayers, and when all were in bed, would sing to them. M., 8, hangs his doll on a chair pappoose-wise to sleep nights. One folds a shawl, places a pillow on the floor or puts two chairs together for a bed. One writes: Only my large doll Marguerite would go to sleep. I would sing and rock her till my arms ached; one was greatly afraid dolls would get their heads covered in bed and smother; one puts little doll in big doll's arms, and pretends the mother doll sings it to sleep, when it is put in a cradle. F., 7. My dolls sometimes kick the cover off. I spank them and they keep it on. One says: Some dolls go to sleep as soon as their head touches the pillow, and others are the worst kind of sleepers. F., 12. My doll often wakes in the middle of the night and cries for its mamma. F., 12, has a doll that wakes up in the middle of the night and cries for water, when the girl's father must get up and go to the kitchen for it. F., 14, puts candy to doll's mouth, so it will sleep quicker. F., 7, says: When dolly is just awake, she is often in a very bad humor. F., 14. I sang my doll to sleep with every song I knew. F., 12. When dolls get older, you can put them to bed awake; if I woke up and could not find my doll, would cry as if my heart would break. One writes: I could never keep as quiet for a baby sleeping

as I could for my doll; one considered dolls young ladies and never sang to them; one used to go to sleep herself putting dolls to sleep; when I sang the line—"down comes baby, cradle and all," I let my doll drop, so as to soothe her imaginary cries; one was vexed if any one came into the room; if doll was good I put her to bed, if not, the nurse; when mamma was busy or I was noisy, I was always ready to be quiet getting dolly to sleep.

V. Sickness.

Dolls have many diseases. In our returns there were 63 cases of measles, 47 of scarlet fever, 34 colds, 33 of whooping cough, 31 diphtheria, 27 of members injured, 26 headache, 23 mumps, 22 fever, 18 chicken pox, 17 small pox, 16 sore throat, 15 colic, 11 croup, 11 surgical operations, 9 stomach ache, 9 toothache, 9 leg broken, 8 grip, 7 consumption, 5 beheaded, 4 typhoid fever, 4 leprosy. The following occurred from one to three times: bronchitis, billiousness, cramp, catarrh, chills, teething, sore eyes, earache, dysentery, jaundice, heart-trouble, chafed limbs, pneumonia, rheumatism, dyspepsia, brain fever, spells of vomiting.

The most common remedies are tapioca pills, water, sugar pills, poultices, plasters, quinine, paper pills, colored water, vinegar, menthol pencils, water and dirt, tea syrup, seltzer aperient, sweet oil, salt and water, sugar for powders, soap, peppermint, paregoric, potato and salt, castor oil, vaseline, cement, currant juice and water, camphor, candy, ice cream, bread pills, dirt powders, chalk and water, dissolved candy, hot bottles, mustard plaster, squills, laudanum, Hive syrup, castoria, drops, etc.

To treat these diseases the doctor in 48 cases is a boy, in 30 a playmate, sex not mentioned. In 25 cases the owner of the doll is the doctor; in 24 cases the doctor is imaginary, in 20 cases he is another doll. Sometimes father, mother or even the real doctor, if he happens to be present, is consulted.

The remedy often aims to fit the disease. Fever may be put on with red paint, treated with Seidlitz powder or a drop of bismuth every half hour. A doll who lost her wig and had brain fever, was bandaged and put to bed. Repairs are surgical operations and the repair shop is a hospital. In one case of toothache the face was broken in trying to pull it. For dyspepsia burned rice was ground in a mortar. For sore eyes a veil was used. For sore throat flannel and salt gargle, pork rinds, red pepper and ten minutes in bed. For stomach ache, after careful examination of the pulse,—flannel, salt and water, tapioca pills and darkness was the treatment. In small-pox, caused by spotting the waxed face of a doll, sugar and water cured. For measles, the head was bathed and tied up with imaginary brandy, bread pills, a sweat and hot water, which

latter brought out the eruptions until the wax face was disfigured. For mumps the face is grotesquely muffled and tied up. Leprosy was suggested in the Sunday School and by the paint flecking off. In the case of a broken leg an ambulance, ether, etc., were extemporized. Eye water is squeezed into the socket of a knocked out eye. Ink and catnip tea are good for sleeplessness. Orange marmalade, licorice, etc., is for teething. For colic, dolls must be laid on their stomachs and given warm drinks and tucked up with extra wraps. The best thing, says a boy of 13, is a good dose of bad medicine.

"My doll Liz," says F., 10, "had a headache, so I put on her micado and read her some of Longfellow's Hiawatha, as she wanted me to." F., 10. "My baby doll is always sick, and I have Dr. Sam, a very old doll, come and treat her." F., 8, vaccinated all her dolls, putting in soap. F., 12. "My baby doll has colic every night, croup, pain and all sorts of diseases, but the large dolls are very healthy." F., 13. "The paint came off my doll's face and she grew pale and sick." Two boys had dolls wounded in the army; 17, doctors were purely imaginary personages. Some girls about 12 had a hospital house, in which at one time there were forty-two patients. M., 7, takes his doll to the seaside for her health. F., 12, had 92 dolls, many were often sick; disease not always designated. F., 10. Puts her colicky dolls across her knee and they soon recover. F., 13, rubbed red chalk on her doll's face to make a high fever seem more real. M., 6, has dolls that sometimes have three or four diseases at once; they must be rubbed, dosed, the room kept dark and quiet. "When I was sick, my doll was sick too; she went through whooping cough, measles and scarlet fever with me. If either of us got sick the other did." "Mamma was always the surgeon, mending broken limbs; we always pitied dolls and thought they suffered greatly." F., 12, used to give tooth powder for medicine, but stopped when told it would not digest. F., 13. "I was once extremely anxious lest my doll baby should die, it was so sick." "My doll followed every stage of the disease of a neighbor, had the same treatment and got well when she did. I made an artificial scab on her face." F., 3, if she bumps her doll, always runs for mamma to put vaseline on it. F., 8, had as her chief wish for a long time a bed, so her dolly could be sick. F., 11, "feeding dolls and imagining them sick, always seemed foolish to me." M.. 8, was a doll dentist, with toothpicks for instruments. A doll, shaky about back and legs was bandaged by a medical student and ordered abed for six weeks, which was literally followed. Another doll became permanently blind after scarlet fever. For another, a red lead pencil was desired to make blotches, so the doll could have the measles. F., 9, fell from window and broke her arm; when well she threw her doll out of the window, but as its arm was not broken, did it purposely and had it splintered. F., 8, telephoned through the door knob for the Dr., as baby was awful sick. One doll was dressed and trained as a nurse. Paper dolls were sick when torn. The doll doctors visited and looked at them earnestly but did not say much. All the dolls of an invalid child were invalds. Laura Bridgeman bound her dolls' eyes as were her own. If bran comes out the doll is feeble. "Reading of Indians, my brother and I scalped my doll's head and it was beyond remedy." "After fever my doll's hair came out; I pulled out a few every day." M., 9, shot holes in dolls with bow and arrow to dress the wounds. "When my dolls got well they would first sit up a few minutes, then all day, then

play." "Put paper dolls torn, sick, in a book or bed." One could never give medicine to dolls she hated it so herself. F., 8, was most affectionate with sick dolls. "My dolls sometimes got sick as a punishment for being bad." M., 6, with friends, treated doll for drowning. For many children dolls have no diseases, for others they are simply sick, with no disease specified and get well with no drugs or doctor. For others medicine is given, no kind prescribed; they are simply put to bed or laid down. It must be children of a very different type of mind, as well as better acquainted with sickness, whose dolls have every symptom of specific diseases with doctors called, particular medicines prepared and given with glass cup, spoon or fingers, and with localized pains and aches.

VI. Death, Funeral and Burial of Dolls.

Sometimes these are quite isolated from each other and from sickness, and sometimes all follow in due course. Of all the returns available under this rubric 90 children mentioned burial, their average age being nine; 80 mentioned funerals, 73 imagined their dolls dead, 30 dug up dolls after burial to see if they had gone to Heaven, or simply to get them back. Of these 11 dug them up the same day. Only 9 speak of them as dying naturally of definite diseases. 15 put them under sofa, in drawers, attics or gave them away, calling this death; 30 express positive belief in future life of dolls, 8 mentioned future life for them without revealing their own convictions, 3 buried dolls with pets and left them, 3 bad or dirty dolls went to the bad place, 14 to Heaven; 17 children were especially fond of funerals. 12 dolls came to accidental death by bumps or fractures, 1 burst, 1 died of a melted face, 2 were drowned (1 a paper doll), 1 died because her crying apparatus was broken, 1 doll murdered another, was tried and hung. Dolls of which children tire often die. 30 children never imagined dolls dead. This parents often forbid. 1 boy killed his sister's doll with a toy cannon, 3 resurrected dolls and got new names, 5 out of 7 preachers at dolls' funerals were boys, 1 was the doctor; 3 doll undertakers are described. 22 cases report grief that seems to be very real and deep; in 23 cases this seemed feigned. The mourning is sometimes real black and sometimes pretended. 19 put flowers on dolls' graves, one "all that week;" 28 expressly say that dolls have no souls, are not alive, and have no future life. In 21 cases there was death but no burial; in 10, funerals but no burials; in 8, funerals but no deaths.

F., 14. "My dolls never die nor marry, they are babies." F., 14. "My dolls never die unless they get broken. I never allow them to, it is too painful." F., 23. "I never thought dolls dead till arms, legs, head were gone, and often not then." F., 13. "Doll smashed, not dead, just thrown away." F., 9. "Doll broken, funeral just for fun." F., 8. "One particular doll for funeral purposes." One remembers doll's head crushed, kissing fragments and crying "O! dear Freddie's gone to Heaven." One got doll too warm and when wax ran down its

face cried "O mamma! dolly is bleeding to death." "My dolls never die, but I do so hate to have them sick." M., 10, buries dolls' limbs, heads, etc., apart if they come loose. F., 9. "Very rarely had my children die, but had them come to life right away as a different person." F., 6, was given a doll so lifelike that she feared it, believing it a dead baby. A teacher writes: "The true value of a good doll in moulding a girl's character has not begun to be appreciated. I disapprove doll balls, theaters, marriages, and especially deaths and funerals." F., 9, whittled dolls rudely from sticks, buried them, covered the grave with flowers and in a few days dug them up as mummies. One thinks an imperfect doll better off dead; one never buries but simply loses interest in it or throws it in a corner. For one the thought of death was too terrible to play with. When a dog tore a beautiful doll to shreds its owner was simply heart broken. For one, burying was throwing away, hiding, or otherwise getting rid of the doll least cared for. F., 16. "It broke my heart when my doll broke her head but I never thought of a funeral or future life." M., 6, hates dolls "for they are all girls, they just keep their mouth shut and make believe children, they never die because they don't keep their eyes always closed forever." F., 11, never played dolls died lest she should die herself. F., 10. "We draped ourselves and the doll's coffin with crape, it was a melancholy procession, and after a touching eulogy by my cousin, she was laid to rest beside the late rooster." Two girls of 4 played all their dollies were dead; one was dressed as a "God doll" and hung up high; as the others died they were each tossed up to the God doll and if it touched him or he swung a little, they said the angels would come for the dead doll. "We read a chapter in the Bible, said a prayer and buried the doll in a box. I went into the house crying and could not be comforted but dug her up in an hour or two." F., 10, dreamed she saw her broken doll in Heaven. Another is comforted because she can take the dead doll to the table with her in Heaven. Two girls of 3 broke off their dolls' heads, but they were "just as alive" and treated the same. "I used to come and sit by her grave and pity her, and think what it must seem to be down there in the grave." Colored F., 12, said dolls did not go to Heaven for it was bright; they were put in the dark earth, hence went to hell. "Soon after my doll died I went to a funeral and was consoled to know I should meet her again." F., 7. "We had a regular graveyard at the end of the garden where we buried pets and dolls. When dolly had lain there a few days we dug her up and played she was a new baby and dressed her in long clothes." F., 10, thought doll could not go to Heaven unless buried in a regular cemetery. F., 6, lost her doll and pictured it as a doll angel so vividly that when it was found she was disgusted to find that it was still on earth. F., 13, when she found her doll's head hollow thought it had always been dead. A girl feared a black doll and burnt it in the fire, and for a long time could not look at the fire-place without fearing its ghost would appear in the smoke. F., 7, found a rag doll had no heart and so put in a small ball so it could live and love us. At one doll's funeral after chanting the Lord's prayer they recited "earth to earth, dust to dust, if the Lord don't take you the devil must." "When dolly died from eating too much of a pudding I was forbidden, I watched her grave for fear angels would take her." "When my brother proved my doll had no brains by slicing off her head, I felt I had been deluded; I watched him with stoicism and took no more interest in dolls." F., 11, cremates dead paper dolls.

VII. Dolls' Names.

Of dolls' names, 199 were given for a friend; 87 because

they were pretty, favorite or fancy names; 54 because of real or fancied likeness; 35 for a name in a story or some one heard of; 33 were named from the giver; 24 had no name save Dolly; 21 gave new names often; 20 were named from some peculiar look or quality in person; 9 took the owner's name; 6 were named from the time or place of receiving the doll; 5 from a feigned likeness; 4 had purely imaginary names; 2 had very unusual names; in some cases ugly names are given to dolls disliked. In two cases the material of which the doll is made is the name. 10 very formal christenings are spoken of. Sometimes every doll in a family receives the same name. Dolls with names frequently changed rarely develop distinct personalities.

Some cases are the following: named Rose because of rosy cheeks. Some children cannot remember the names of their dolls, they have so many. A very short name sometimes goes with a very small doll. M., 3, named his doll Family. The earliest dolls are rarely named. Sometimes qualifying terms are used, like "birthday Mary," "Chicago Jane." A dent on the cheek suggested Dotty Dimple. A Christmas doll was named Merry Christmas. For F., 6, all dolls' names must end in ie. "Whenever I heard a new, pretty name I gave it to my best doll." M., 11 (Bohemian), named his doll My Friend. "Named Lucille because French." "Named Carol because given on Christmas." F., 12, now thinks it silly to name dolls, although she still plays with them. "Most children over six give dolls their own surname." "My doll is named from a ship." With F., 4, a new name goes with every new dress. One doll named Gingerbread, from color of its stuffed out head. "Named Silk because always dressed in silk." "Named Jap because dressed like a Micado." "An invented name is Skidel, another Calambo." Some children hunt catalogues for new names. Some are named Lord, Lady, from vocations; some from pet animals. One girl studied the meaning of names to make them fit; one was called Prince Albert, although a girl, because he was a good man. "If angry with friends for whom my dolls are named I change the name." "A doll I hated was named for a defeated candidate." Some names chosen for prettiness are Hazel, Daisy, Blanche, Maud, Dorothy, Pearl, Gladdys, Flossy, Violet, Rosalie, Elsa. F., called first doll "Daisy," the second "more daisy," and so on.

VIII. Discipline.

In our returns are 41 distinct cases of punishment by being sent to bed, 34 spanked, 32 whippings, 25 scoldings, 20 put in closet, 13 kept in, 12 shut up, 17 made to sit down, 11 shaken, 7 slapped, 7 severely talked to, 5 deprived of food, 2 tied to a post, 1 made to stand up and sing, 1 sent home from school, 1 had cayenne pepper put on its tongue, 1 was punched, 1 had its legs pulled, 1 had its face covered, 1 was fed on bread and water, 1 was thrown down stairs, 1 made to sit on the door knob, 1 had to go to bed in the dark, 1 was hung with due ceremony. Rewards are in the following order of frequency: take out walking, visiting, sit up late, go riding, be kissed, go without nap, go shopping, told a story, taken to party, given

candy, cake, clothes, ribbons. Rewards are often promised or punishments are often threatened, but not given. There seems little disposition to make the punishment fit the crime. The qualities rewarded are the following in order of frequency: goodness, truthfulness, obedience, neatness, kindness, good nature, quiet, sweet temper, patience. Traits or acts punished are: being naughty, not sitting still, quarrelling, talking, answering back, not learning lessons, falling from chair, being "sassy," running away from baby doll, slapping baby doll, crying, being jealous, "won't stand," "won't sit proper," lying, being vain, angry, for hitting or falling on small doll, being cross, upsetting things, stealing, flirting, "saying I won't," etc. 15 say they never discipline dolls, either because they are good, or too little, or never thought of it.

In the supplementary answers 108 children whip, 108 never punish, 80 put to bed, 75 spank, 39 slap, 35 stand in the corner, 34 scold, 21 shake, 20 put in dark closet, 5 throw on floor. 4 broke them, and from 3 to 1 each hung them, pulled their ears and hair, stood on their heads, shut in a box, threw them up let them drop, leave them out in the cold. The age when punishments are most frequent and severest is below 8, thence onward it gradually declines.

F., 10, punishes paper dolls by tearing their legs off. F., 14, by keeping from theater and rewarded by letting dolls buy what they would. F., 6, beats and almost breaks her doll because she "wets herself most every day." F., 11, thought vanity and anger the worst faults. F., 7, whipped dolls for no reason but the pleasure of it. F., 8, flogs severely for the slightest error. "When she sasses me and tells me to shut up I spank her and she goes to sleep." F., 5. "When four she whipped dolls but at eight loved them too much and reasoned with them when they were bad." F., 8, always scolds before whipping. F., 6, whips doll if not found where she thinks it was left. F., 8, gave prizes for neatness, her favorite doll getting all. She adds: "I did not realize it was my fault if they were untidy." F., 12. "I told dolly never to get on the floor and whipped her for it, but made her no better." M., 10. "My doll used to get angry and I would grab her by the hair and throw her down stairs but afterward give her a nice piece of mud cake with raspberries on it." "When dolly is bad I leave her alone to repent her folly." "I think dollies too little to hardly know what is right." "Punishment doesn't seem to make dolls any better." "Sometimes I spank dolls for things they did n't do, it is such fun." F., 10. "When my dolls are real good all day, I let them wear a string of beads or go to ride." F., 11, never thought of dolls as good or bad. "They must grow up truthful men and women." "I corrected dolls for the same faults as my own." "It is better to rule by love." "My dolls fight far less than they used to." "I often give my dolls a good moral talk which helps them."

IX. Hygiene and Toilet.

Hygiene and toilet treatment is mentioned as follows: dressing, 18 times; washing face, 12; taking out doors to get the air,

11; general bath, 10; dressed regularly, 7 times; hands washed, 7 times; bathed every morning, 5 times; hair combed, 6 times; braided twice, brushed twice, went in bathing twice, teeth brushed twice, nails manicured twice. Occasional mention is made of gargling throat, cutting hair, pure air in sleeping, water closet, massage, keeping home from parties to avoid late hours, not letting them go with boys, heavy clothing in cold, and light in warm weather, putting salve in dolls' ears as wax to be cleaned out, and dirtying nails to clean out, wearing wrappers in the morning, plain dresses in the afternoon and silk in the evening. M., 11, I could not get my doll clean because he was black.

X. Dolls' Families, Schools, Parties, Weddings, Etc.

153 returns mention families, 44 describe parties, teas, receptions, etc., 33 schools of various kinds, 26 weddings are described, 25 excursions or rides, in 21 cases the child is the mother of her dolls, 18 theaters, concerts, tableaux, in 14 cases other dolls are the mothers, 14 played shopping, 14 visits, 12 war, 10 balls or dances are described, 10 played families only with paper dolls, 10 hanging or execution, 7 times churches are described, 6 times Sunday Schools, 5 ceremonial baptisms. There were 4 dolls' swimming parties, in 4 cases all the dolls were cousins, in 2 cases the child was the grandmother and in 2 aunt of the dolls, 2 clubs, 2 plays of park with grand stand, other social plays described fully once and often hinted at more times are fire company, slave selling, post-office, country fair, sailing, prayer meeting, step-mother, imaginary mother. Till 4 one boy was mother of his dolls and then father.

F., 10, called a big doll her child, a small doll her grandchild. One boy was mother and the father was at sea. M., 7. "I am the papa and the stuffed cat the mamma." F., 5, crucified boy doll with tacks on a cigar box. One child made dolls act Queen Bess, Scott's novels, etc. F., 8, kept doll boarding school. M., 7, executed criminal doll with pop-gun. "At school dolls must raise their hands. "F., 11, has wedding with doll bridesmaids, ushers, father, mother, invitations, and many dolls to look on, and rice. Boys performed allegory of the Rebellion with dolls. Dolls of two girls are cousins and many are friends of the girls. One had a large family with three generations, all relations of their owners. In one place, divorce is a favorite doll play. "The dolls I cared least for were often nieces." "I loved to have one doll family in the depths of poverty and another richer to help them." "For F., 14, giving presents between dolls was a great game." "We played Humpty-dumpty, Fantasma and Cinderella with dolls." "All my dolls were sisters except one I didn't like, which was a servant." "Paper dolls were a complete family, but no relation to others." "In my doll weddings, something nice to eat was the chief thing." "For F., 12, married dolls had children, she tucked them up under the clothes and pretended they were born the regular way, when they grew up one was Longfellow and the other Louise Alcott." "At doll

parties I play the piano and dolls dance." "At doll weddings the last was singing: 'Now you are married you must obey, you must be true to all you say, etc.'" "M., 2, heard of crucifixion and tried to nail dolly to a board." "F., 8, used to sit her dolls in the parlor and play exquisite music; they applauded loudly and she bowed, although she did not know one note from another. F., 4, plays school, with dolls in a row and standing over them with stick saying 'be good.'" F., 9, got up an elaborate baptismal ceremonial. F., 4, made believe the room was a church, put a little string for a ring on dolly's finger, the brother as priest asked what name she would have the child, said Ruthie, he then threw water in her face, repeated the name and went home. We played swimming, throwing dolls in the water and dragging them by a string. F., 7, dresses up and plays travel, with dress, bag, and buttons for money. She gets ticket, has the lounge for cars, and gives ticket to chair, which is the conductor. One girl writes poetry to her doll: "Well my dollie and where have you been, comb your hair and wash your skin." F., 8, ties dolls to kite en route for Heaven. "We play doll bath, the ocean being a rug; in winter we play school of all nations, when we go out they run away and we have great times finding them." "I arranged all my dolls on the stairs, sitting quietly with them listening to an imagined sermon. I taught my own S. S. lessons to the children; I selected poems for them to learn or read and hymns to sing, though it was I who did the singing." The Episcopal form is more common than the Presbyterian in our returns. "It was fun having some of my dolls lost on their picnics." "Dolls are related according as they look alike." "We acted the story of Elsie Dinsmore with dolls." "All entertainments I saw we reproduced for dolls next day." "I put dolls on the treadle of the sewing machine to pretend they sowed." "We often had to take our dolls out of church, they would not be quiet." "My darky doll could dance a jig and sing Uncle Ned." "Bridget and Pat were no relation to my other dolls." "We often played marriages, but as we grew older preferred to take the character ourselves." "Our dolls were sometimes married secretly and sometimes eloped." "My dolls were never allowed to go to parties alone, these were generally for birthdays." "When my doll came from school I helped her with her lessons." "My wax dolls were one family, China another." "My boy doll once fell in love with a girl doll." "I feared my dolls would catch diseases at school, so gave them a governess." "My favorite doll was the bride and the tongs were dressed as the groom." "For a time all my dolls were widows." "My dolls were very jealous of each other's dress." "I used to have doll baby shows." One thinks paper dolls are not "real dolls."

XI. Accessories.

Counting the doll accessories, we find 179 mention clothes in general, 85 mention beds, 66 sets of dishes, 59 tables, 58 chairs, 57 trunks, 40 cradles, 32 houses, 30 bureaus, 23 toys, 23 furniture, 23 carriages, 22 brushes, 22 combs, 21 folding beds, 20 hats, 12 stoves, 10 shoes, 10 stockings, 10 bonnets, 9 quilts, 9 dolls' dolls, 9 underclothes, 9 toilet sets, 8 pianos, 7 wash-stands, 7 handkerchiefs, 6 cloaks, 6 chamber sets, 6 cupboards, 6 forks, 6 jewelry, 6 knives, 6 lounges, 6 mirrors, 6 mittens, 6 night-gowns, 6 picture books, 6 rattles, 6 sofas, 6 water-proofs, 5 capes, 5 aprons, 5 handkerchiefs, 5 swings, 5 spoons, 5 towels,

TABLE I.

	1	2	3	4	5	6	7	8	9	10	11	12	16	17	22	23	24	25	26	28	29
12 Boys below 6, K. G. Practice	11	9	4·	9	4·	3	....	2	4	....	1	6	....	....	3–	4	4	2	..	..	..
School, Boston.	1	3	5·	3	....	5	7	1	5	3	5	2	....	....	....	6	6	10	6	..	..
12 Girls below 6, Boston Practice	11	11	....	11	....	3	....	3	4	1	....	7	....	....	3–	8	9	5	1	..	..
School.	1	1	....	1	....	7	5	3	3	7	7	2	....	....	....	3	2	6	2	..	..
44 Boys below 6,	35	28	2.8	22	3·3	7	5	4	29	13	5	21	6	1	8–	18	17	15	1	..	..
Worcester.	9	8	4·5	14	4·3	14	21	6	6	18	24	8	5	1	4.1	10	13	14	4	..	..
48 Girls below 6,	48	46	2.6	37	3.11	8	12	12	38	9	3	29	2	.. .	4.8	34	30	23	5	..	..
Worcester.	....	2	....	11	....	24	8	18	5	35	39	11	8	....	....	8	12	18	3	..	..
50 Girls, age 6–12,	50	50	....	45	....	7	26	25	47	10	12	42	25	3	....	47	38	40	..	..	..
Worcester.	....	....	....	2	....	38	13	13	3	40	18	7	21	4	....	3	12	10	..	..	..
50 Boys 6–12,	42	27	....	30	....	12	6	10	36	20	20	28	19	11	....	19	18	22	..	..	..
Worcester.	8	13	....	14	....	18	12	15	12	22	21	17	22	14	....	23	24	20	..	..	..
50 Girls 6–12, Bos-	49	46	....	43	..	7	18	27	40	12	9	29	22	2	....	42	31	35	..	..	..
ton Pr. School.	1	3	..	4	....	38	8	15	9	36	39	18	17	1	....	5	16	12	..	..	..
50 Boys 6–12, Bos-	34	32	....	22	....	5	9	12	26	9	9	18	16	3	....	24	21	21	..	..	..
ton Pr. School.	10	4	....	14	....	13	16	8	10	23	23	12	13	5	....	11	14	14	..	..	..
97 High School	97	80	....	89	....	31	36	31	82	15	26	62	11	12	....	82	60	69	..	..	..
Girls, Worcester.	....	17	....	8	....	40	26	41	14	78	60	23	81	84	....	15	34	23	..	..	..

	1	2	3	4	5	6	7	8	9	10	11	12	16	17	22	23	24	25	26	28	29
5 Blind Boys, average age, 5.2.	3	3	....	1	....	....	1	3	3	2	....	2	....	....	1–	3	3	3	3	..	..
	2	2	10.	4	...	4	3	1	2	1	2	1	2	....	5·	....	....	...	..	..	..
4 Blind Girls, average age, 6.3.	4	4	1.	3	....	....	2	2	4	3	1	2	....	....	3–	4	4	4	2	..	..
	...	....	14	1	....	3	2	2	....	1	3	....	2	....	5·	....	....	....	..	1	1
45 Feeble-Minded Girls.	45	42	3.6	22	....	3	12	8	10	18	5	1	....	....	18+	24	31	35	28	..	..
	....	3		18	11.	10	7	21	1	26	33	1	6	4	15-	7	10	6	..	..	..
16 Foreign Girls.	16	15	2.7	9	5.5	2	10	10	16	4	4	13	6	1	42–	13	10	11	..	..	3
	....	1	9.5	6	8.2	5	2	4	....	12	12	2	9	8	5.5	5	6	5	..	4	1
10 Foreign Boys.	10	8	2.9	6	4.6	....	2	3	9	2	3	9	8	1	5–	8	9	6	..	1	..
	....	2	6.	4	7.8	5	1	6	1	8	7	....	2	2	5.8	1	1	10	1	1	2
37 Eighth Grade Grammar Boys.	27	24	4.9	29	2.11	26	1	30	32	11	11	18	29	....	3.5	33	31	26	2	..	..
	10	9	7·	9	7·	6	....	7	5	25	24	18	6	....	....	4	6	10	4	..	..
11 Boys, 17–19, av. Horace Mann school for deaf and dumb.	6	4	3·	4	4.6	1	5	1	3	3	1	3	2	....	2–	4	2	3	5	1	..
	5	7	5.2	2	7·	3	1	2	3	3	5	3	....	1	4.3	1	4	3	1	..	..
38 Girls, av. 13–19. Horace Mann school for deaf and dumb.	38	36	3.4	26	4.1	7	15	7	31	9	7	20	7	3	12–	31	21	26	20	..	1
	....	2	12	11	12.9	19	15	16	5	26	29	14	12	14	7·	6	15	11	10	9	9
Averages.	526	465	3+	408	3.9	122	160	190	414	141	117	310	153	37		398	339	352	67	2	4
	47	77	8.1+	126	8.3	252	147	179	84	364	351	139	206	138		108	175	172	31	15	13

5 veils, 5 washstands, 4 caps, 4 hair-pins, 4 newspapers, 4 pictures, 4 soaps, 4 wash rags, 4 books, 4 carpets. The following are mentioned 3 times: bags, balls, bookcases, blankets, earrings, fans, flat-irons, jackets, kitchen sets, muffs, mats, overshoes, parasols, parlor sets, pencils, pewter dishes, money purses, rings, shawls, slippers, sheets. The following are mentioned twice each: bath tubs, blocks, bracelets, coats for boys, cribs, chests of drawers, candlesticks, comforters, Christmas trees, back combs, desks, furs, foot-stools, hoods, horses, high chairs, jardinieres, kettles, nursing bottles, napkins, puff boxes, pillows, pincushions, sacks, sponges, sponge bags, table-cloths, tin kitchens, tooth brushes, toy dogs, toy cats, toy cows.

The following are represented by one each: ankle tie, basin, bath-room, bathing suit, bloomers, bib, bolster, broom, stuffed bird, bench, blackboard, chatelaine bag, clothes horse, clock, collarette, round comb, clothes basket, watch chain, clerical suit, dressing gown, dog cart, dust pan, dining set, flowers, hand-mirror, hanging lamp, ironing board, invalid slippers, kitten, kid gloves, manicure set, necklace, piano lamp, pony, pin, pans, rubber boots, ruler, rubber ring, shoe horn, satchel, pair of skates, slate, stable, stool, scissors, sideboard, tam o'shanter, tent, toilet water, toilet basket, tins, tureen, trowsers, visiting cards, wraps, tennis racquet, watch, stilts, coalbox, crutch, medals, ledger, night-cap, wigs.

In issuing his supplementary syllabus it was Mr. Ellis's intention to get 100 boys and 100 girls from each grade to answer with a word each of his 29 questions. This would have given a more definite indication of the extent of doll plays, the doll age, effect of sex, etc. He also sought returns from idiots, blind children, children of foreign birth, etc., for comparative purposes. The returns, however, have been only 579 in all, and many of these fail to answer one or more questions. They have all been counted and most of the results incorporated in the preceding table; and the rest, which could not be presented by this method, are inserted under their respective entries.

In the above table the figures of the upper horizontal line designate the questions as they are numbered in the syllabus. See page 131. Under each special series the upper figure designates the affirmative answers, the lower the negative answers. Thus, of the twelve kindergarten boys below six, eleven had played with dolls and one had not. Under 3 we have averaged the age of beginning and stopping doll play, placing the former over the latter; thus for 44 Worcester boys below six, the average age of beginning doll play was two years and eight months, and the average age of ceasing was four years and five months. The same method is followed in column 5. For question 7 the upper number designates whether children played with anything else as if it were a doll, and we have left it to another table to show what substitutes were most frequent. For question 10, the upper figure designates alone, the lower with others. For question 11, too, the order of words

in the syllabus is followed, the upper figure designating old, the lower new, and in question 12 the upper figure designates the preference for large and the lower small dolls. In 22 the minus sign means never played that dolls died, while the other figures designate the average age in years and months when death was played. In question 26 the upper figure designates the number of those who ascribed any one or more of the physic qualities named in the question to doll and the lower number designates the number of those who assigned none, leaving it to the supplementary table to show the relative frequency of each of the qualities.

From above table it appears that of average city school children below 6 yrs., 82% of boys and 98% of girls have played dolls; between 6 and 12 yrs., 76% of boys and 99% of girls; of high school girls, 100%.

Those confessing that they ever specially enjoyed doll play are: below 6 yrs., 77% of boys, 95% of girls; between 6 and 12 yrs., 78% of boys, 97% of girls; of high school girls, 82%.

Those ever having used substitutes are: below 6 yrs., 15% of boys, 48% of girls; between 6 and 12 yrs., 35% of boys, 68% of girls; of high school girls, 58%. Thus girls appear to lead the boys in every grade. Nearly fifty per cent. of the girls, and a little less of the boys, answering in all grades, said they loved the substitutes as much as real dolls.

Paper dolls had been used by 73% of those below 6 yrs., by 80% between 6 and 12 yrs., by 92% of high school girls. Interest in other dolls was thought dulled by paper dolls, by 34% of boys and 26% girls below 6, 35% boys and 15% of girls between 6 and 12, 44% of high school girls.

Of all kinds of children,—blind, deaf, foreign, etc., only 17% speak of lack of child companionship, and 72% prefer playing dolls in company; 38% say that love of dolls grew out of love of real baby, and 13% transferred their doll love to babies; 79% had tried to feed dolls; 66% have thought dolls hungry; 68% have ascribed to dolls some of the psychic qualities mentioned; 67% have thought them sick.

XII. Miscellaneous.

Relative frequency of some forms of doll play. In the supplementary reports to question 27, 266 children mention a fondness for dressing dolls; 218 like to wash them; 189 a love of doll parties; 183 a love of sewing for them; 176 a love of playing school; 169 love of putting to sleep; 137 love of weddings; 93 of nursing; 82 mention treating them as companions, telling secrets, etc.; 79 love to feed them; 49 to punish them; 36 to play funerals.

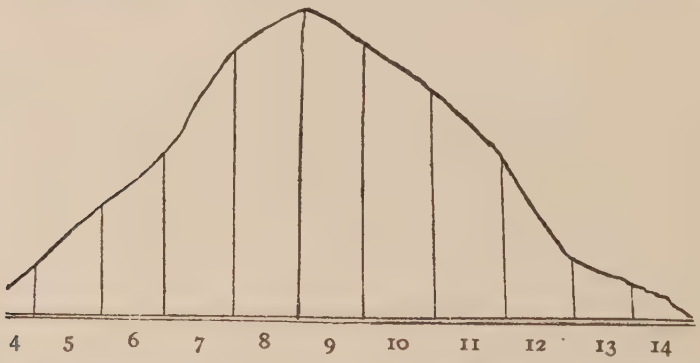
The relations of doll and baby. If the wig comes off dolls they are often treated as babies; sometimes they are made bald-headed to be babies. For some little children dolls with hair have no charm, and as children grow older they dislike baby dolls. Transferrence of affection from dolls to new baby is often noted. Some are afraid of dolls till acquainted with babies and then become very fond of them. Some children think babies, like dolls, are filled with sawdust. Some experiment on babies, putting fingers in their eyes, etc., and treat them generally as they have been used to treating dolls.

Paper dolls. Some children never care for paper dolls;

some think them best to play or act fairy stories. Of 27 boys aged 7 five played with and preferred paper dolls. Some children prefer them to all others and play with them longer. As they grow older, paper dolls have a peculiar fascination. F., 17, ended doll play by putting her paper dolls in a scrap book as a house. School, collective games and families are more often played with paper dolls.

Rude and maimed dolls. If dolls lose their heads, eyes, or get otherwise deformed, little children are often afraid of them. Some are horrified if the wig comes off; some little children fear everything in human shape, perhaps, till they make the acquaintance of a new baby and then love dolls. Some suddenly conceive life-like wax dolls as real dead persons and have sudden aversions for them. Some like to maim dolls, pulling of their limbs, perhaps killing them, in order to have a funeral. Sometimes it is thought rather disgraceful to both doll and owner to have new heads, limbs, etc. Accidents to dolls sometimes cause sensitive children to faint.

Influence of age. Very rare are those who begin doll play in the cradle and keep it up through life. The doll passion seems to be strongest between 7 and 10, and to reach its climax between 8 and 9. The following curve is based on reminiscence of 98 female pupils in normal schools, the figures on the horizontal line representing the age, and the length of the vertical lines the number of opinions:



In the supplementary papers 55 stopped playing dolls because they liked other things better; 50 ceased to care for them without being able to give a reason; 46 stopped because they were too old; 44 because too large; 22 because too busy and had no time; 15 because ashamed; 11 because loved a real baby. Others gave their dolls away, preferred new playmates, were made to stop, dolls were worn out, etc.

Persius tells us how the young Roman girl, when ripe for

marriage, hung up her childhood's dolls as a votive offering to Venus. "Veneri donatae a virgine puppae." Satires II, 70.

Froude, in his life of Carlyle, tells how Mrs. Carlyle at the age of nine made an end of doll play. It had been intimated to her, by one whose wish was law, that a young lady reading Virgil must make an end of doll play. She decided that dolly should die like Dido, so with her many sumptuous dresses, her four-post bed, a faggot or two of cedar allumettes, a few sticks of cinnamon, a few cloves, and a nutmeg, her funeral pyre was built, and "the new Dido having placed herself in the bed, with help, spoke through my lips the last sad words of Dido the first, which I then had all by heart as pat as a, b, c. The doll having thus spoken, kindled the pile and stabbed herself with a pen-knife by way of a Tyrian sword. Then, however, in the moment of seeing my poor doll blaze up (for being stuffed with bran she took fire and it was all over in no time), in that supreme moment my affection for her blazed up also, and I shrieked and would have saved her and could not, and went on shrieking, and everybody within hearing flew to me and bore me off in a plunge of tears."

Girls often play with dolls regularly until 13 or 14, when, with the dawn of adolescence, the doll passion generally abates. It is then realized more distinctly than before that dolls have absolutely no inner life or feeling. Some girls play with dolls with great pleasure, but secretly, till well on in the teens and often in the twenties, and occasionally married women, generally those without children, or single women, play with dolls all their lives. Several of our returns report infants as interested in dolls very early in life, one fully reported case at 30 days, another at 13 weeks, and several cases before one year old. For the second year of life our reports contain about 20 cases of developed love of dolls. Near the end of the second year, one child was observant enough to take the rectal temperature of her doll.

Miscellaneous. Some children prefer naked dolls; persist in playing with them in this condition, imagining that thus they can love them more. Some children have special aversions: now to dolls with brown eyes, now to light or dark haired dolls, those with long or short hair, etc.; some children compose stories and even poems for or about their dolls; a six year old boy, e.g., says: "I have a little dolly, she sits in a chair. Her name is Polly and I comb her hair." "One doll would not stand and I was angry, knocked out its eyes and gave it away." "To tell my dolly she looks ugly makes her good." "I imagined my dolly cruelly treated for what it never did, but loved to tease it and pretended she said bad words." "My dolls all kept individual characteristics, often suggested by the faces." "I could never understand why dolls needed to be whipped, and thought them so good that I was greatly hurt when they were accused of faults." "I thought dolls greatly pleased with new clothes, toys, etc." "Some

children are jealous of dolls which have more or better things than they have, while some wish the dolls to dress better than they do themselves." "Dolls with poke bonnets, called 'Salvation Army dolls,' in one case marked the rise of interest in religion." "The smallest doll in the world is no larger than a pin, and the lid of the box where it is is a magnifying glass." "I want two dolls, one to hit and knock about, and one for walks to show, perhaps a bride doll." "Of 66 Edinburg pupils an equal number preferred baby and large dolls." "A three-story doll house, with kitchen, drawing room, 4 bed rooms, 3 beds, 6 chairs, 2 pantries, 5 tables, 2 coal boxes have helped one child very much." "Two children became more cleanly from bathing their dolls." "One girl had to be stopped from nursing her doll." "Riding on dog and cat were great fun for some."

Influence of dolls on children. All opinions received are rudely classified as follows: 44 adults simply report the influence of dolls on children as good, 41 think dolls help parenthood, 39 think rude dolls best to cultivate the imagination, 38 think dolls fit for domestic life, 38 think they develop moral qualities, 35 that they cultivate taste in dress, 35 that they teach to sew, 29 that they teach tidiness, 25 like rude dolls best, 25 that they develop the social nature, 24 they teach to make clothes, 24 that they teach thoroughness, 24 report that there was no regularity in the care of dolls, 23 thought the religious nature strengthened, 21 neatness, 21 say dolls are better cared for if life-like, 13 better loved when life-like, 12 carefulness, 7 helps in care of children, 6 think the doll passion makes no difference with children, 6 report great regularity in care of dolls, 6 say it develops love of children, 6 better every way, 5 imitation is stimulated, 4 each specify more clearly, to combine colors, more obedient, kept quiet, kept out of mischief, kept from bad company, made more tender, more thoughtful of others, expensive dolls are best. Three each specify improvement in dress, knowledge of color, more affectionate, more orderly, more sympathetic, never learn anything from doll play, spells of regularity in caring for dolls, life-like dolls are best. Two each think dolls teach children to appreciate parents' care, make them more cheerful, help power of conversation, help design, teach knitting, to make patterns, more observing, more persevering, more stylish, more gentle, more refined, softening influence, dolls should be in kindergarten. One each think dolls help to care for baby, housekeeping, industry, kindness, finer senses, emotions developed, more courteous, teach embroidery, desire for motherhood, philanthropy, love of beauty, memory, mending, originality, patience, power, womanliness, truthfulness, keep indoors, shows mother the child's traits, makes pure in thought, respectful, danger of too many accessories, harmed by too light treatment and remarks by parents, care for doll's body helps to know and care for their own.

Some individual opinions of parents and teachers are quite fully expressed: "they keep children from growing old;" "best of all is the reflex influence on the child of trying to teach her doll and of trying to set a good example;" "nice dolls make children more careful of them and they ascribe human qualities to them, while rude dolls that can be banged about and made to take any part stimulate a more elementary type of imagination;" "to imagine the rug an ocean and have a stick doll with a frock that can be washed, gives the fancy something to do;" "she learned to read in order to read her doll a story;" "I had a strong wish to be as good as I thought my dolls were;" "children who care least for dolls love their own babies most later;" "dolls hurt my health by making me sit indoors and care too little for the company of other children, but they help me put myself

in my parents' place;" "too fine dolls check fancy, beget restlessness and desire for everything, so there is a limit beyond which dolls should not go;" "when mothers fail to impress certain virtues, they need but to say how would you like to have your doll do it, to score their point;" "dolls might aid in geography, language, history, drawing, make visits to different countries, use foreign money, dress, food or be engineers, sailors, etc.;" "dolls might be brought to school and by teaching them children could learn their own lessons better;" "doll play reveals character and ideals, as Plato favored getting drunk occasionally to show out the real character;" "excess of the doll passion, makes excitement, nervousness, worry, and some girls are teased into nervousness by their brothers for playing dolls."

The number and vast variety of objects more or less dollified well illustrates the remark of Hugo—that as birds may take almost every material for a nest, so nothing resists the childish instinct to find or make dolls out of everything, and stones, books, balls, buttons, stove hooks, nails, bricks, wash-boards, flowers, pins, articles of food, objects with no trace of anything that can be called face, limbs or head, are made dolls. Hugo's Cossette dressed, hugged and put to sleep a naked sword. Occasionally immovable things like posts, stumps and even trees are more or less dollified. The quick imagination of childhood makes an eye out of a speck or dot, and perhaps imagines the other features. This instinct cannot be entirely explained as nascent parenthood, but must include some elements of the wide spread animism, if not fetichism, of children and savages. The valuable study of Dr. Fewkes, the Roman games, the Doll Feast of Japan and some of the etymologies point this way as do, perhaps, the rare cases of children who make God dolls, whipping them for watching, etc. The fear of the spirits of burned dolls, of black dolls, of evil eye, and some forms of special aversion point the same way. As the optic nerve, whether heated, chilled, touched with chemicals or electricity, can only respond by giving the sensation of light, so primitive humanity sees personality in everything. This again is abundantly proven in returns to another syllabus already worked up, illustrating children's feeling for inanimate as well as animate nature. However disconnected the words doll and idol, some psychic connection cannot be doubted. Not only is a doll the visible form of a non-existent person, as in Japan, of the Mikado and his wife; to Queen Victoria, of the Court and theatrical personages; and to other orientals of ancestors, but it may represent mythological beings or demigods, and evil or beneficent deities. Greek statues of the Olympians have been called stone dolls, and the iconoclastic rage which destroyed many of them expressed the instinct of the first commandment. As object lessons setting forth inivisible beings in concrete form idolatry is perhaps as much more persistent than dolls, as memory of abstract is more persistent than that of concrete words

in progressive aphasia, and for analogous reason. Idols may, perhaps, be valuable object lessons in religion for children at the low pagan stage and may yet have a rôle to play in elementary religious training, but their danger is analogous in kind to that sometimes feared for excessive and too prolonged doll cult, viz., that it may arrest the higher development of parental instincts, check interest in free play with children, and place puppets and dummys where real personalities ought to be. If deities were certain to appear later in concrete form and break the charm of idols, so that the danger of forever putting an unworthy symbol in place of that which it symbolizes could be as effectually obviated as interest in "meat babies" and live children is sure to supplant dolls, idolatry would lose its dangers. Both the psychological significance and the educational value of the image worship of the Catholic church and of religious pictures, figures and of spiritual beings, are topics upon which carefully made home experiments and observations are needed and could be made, which would be of great value.

The relative small proportion of dolls which represents infants, and the large proportion representing adults, shows again that the parental instinct is far less prominent in doll play than is commonly supposed. Nearly all the 132 dolls of Queen Victoria were adults and represented prominent personages. On every hand we see that a large part of the charm of doll play is the small scale of the doll world, which brings it not only into the limited range of the child's senses and knowledge, but focuses and intensifies affection and all other feelings. A large part of the world's terms of endearment, are diminutives, and to its reduced scale the doll world owes much of its charm. The cases of fear of dolls are almost always of large dolls, the charm of which comes out only well on in the doll period and as exceptions to the rule. Even feared and hated objects excite pleasure when mimicked on a small scale. Moreover, relations are better seen in a world of small things. A small eye or mind cannot readily take in a fully dressed lady. Yet again the child can work its feeble will on objects with a completeness which is inversely as their size. Smallness indulges children's love of feeling their superiority, their desire to boss something and to gain their desire along lines of least resistance or to vent their reaction to the parental tyranny of anger. Maggie Tulliver drove nails through her doll's head to vent her anger at her aunt, but when the reaction came drew them out and poulticed the wounds. There may be often danger in a scale too small, as that of Queen Victoria's dolls ranging from three to nine inches long, for thirty-two of which she made dresses, working handkerchiefs half an inch square, yet to make small will always be of itself alone a most effective pedagogic method,

and will always exert a potent fascination. In Japan it is a fashion to make everything severely small for children. Our returns do not show any law of relationship between the size of the doll and the size or age of the child, save that the extremes of large and small develop their chief charm well on in the doll period. Things large like things far fail of exciting interest, and of being comprehended by children, and are almost as effectively out of their range as things microscopic are for adult eyes. As the microscope and telescope bring minute and distant objects within our perview, so a doll microcosm opens up a world of relationship so large, and simplifies things so complex as to be otherwise closed to the infant mind. If we take a large view of the doll problem it thus comprises most of the most important questions of education.

That boys are naturally fond of and should play with dolls as well as girls, there is abundant indication. One boy in a family of girls, or boys who are only children, often play with dolls to seven or eight years of age. It is unfortunate that this is considered so predominantly a girl's play. Most boys abandon it early or never play, partly because it is thought girlish by adults as well as by children. Of course boy life is naturally rougher and demands a wider range of activities. The danger, too, of making boy milliners is of course obvious, but we are convinced that on the whole, more play with girl dolls by boys would tend to make them more sympathetic with girls as children if not more tender with their wives and with women later. Again, boys as well as girls might be encouraged to play with boy dolls more than at present with great advantage to both. Boys, too, seem to prefer exceptional dolls, clowns, brownies, colored, Eskimo, Japanese, etc. Boys, too, seem fonder than girls of monkey and animal dolls, and are often very tender of these, when they maltreat dolls in human shape. Again, dolls representing heroes of every kind and non-existent beings, dragons and hobgoblins, find their chief admirers among boys. A boy of six I know was fascinated with a rude jack-o-lantern, would lie on the floor and talk to it by the hour, ask it questions and get what he deemed real answers, and was charmed by its horrid features. Boys are little prone to doll luxury or elaborate paraphernalia and are content with ruder dolls than girls, and the doll function is naturally far less developed than with girls.

In discussing the degree and kind of reality of the doll world, we approach one of the most difficult of psychological problems. Children seem to delight in giving way to illusions, and even delusions here, which it is extremely difficult for the adult mind to understand. Often in the midst of the most absorbing play, the slightest criticism, a word of appeal to reason, the most

trivial fact of real life, annihilates in an instant the entire doll cosmos. The wedding, school, funeral, is unfinished, the half dressed doll dropped in the most painful attitude and left in the cold, perhaps, for an indefinite period. Sometimes we see traces of a struggle almost painful between faith and doubt, either of which may triumph. The doll may have a definite personality, be a real member of the family and not a toy or a "hybrid between a baby and a fetich," be a real part of the child's self, be fanned, its bruises rubbed and wept over; or, again, as in one case, may be the hero of a vividly fancied romance, lose money, work its way out west, become rich, travel east, be shipwrecked on a desert island, etc., real personalities may lose interest in comparison with it, and all this may be kept up with some consistency for years—one normal woman of twenty-seven, and another of forty still play with dolls—absorption in the play blotting out the grossest incongruities, the doll being a real companion and crony sharing every secret and confidence in solitude *a deux*, on journeys and elsewhere, so that the child's psychic life seems entirely bound up with it. The subjective and objective, and will, feeling and knowledge are strangely mixed. One child had tried all her life to keep her doll from knowing she was not alive. Dolls are buried without dying, fed without eating, bathed without water, now good, now bad, now happy, now tearful, without the slightest change, the child furnishing the motive power, and all its moods being mirrored in an *alter ego*. It seems to be at about the age of six, three years before the culmination of the doll passion, that the conflict between fancy and reality becomes clearly manifest. Abandonment to the doll illusion and the length of the doll period seems less in the western than in the eastern children, and decreases as dolls and their accessories become elaborate. With every increase of knowledge of anatomy or of the difference between living tissue and dead matter, between life and mechanism, this element of doll play must wane.

Perhaps nothing so fully opens up the juvenile soul to the student of childhood as well developed doll play. Here we see things which the childish instinct often tends to keep secret, fully revealed. It shows out the real nature which Plato thought so important that he advised drunkenness as a revealer of character. The doll often fears ghosts, lightning, and becomes conscious of sex as the child does. Flogging the doll for not being in the right place, being untidy, etc., often marks the rise of the child's consciousness of order and cleanliness. Whispered confidences with the doll are often more intimate and sacred than with any human being. The doll is taught those things learned best or in which the child has most interest. The little mother's real ideas of morality are best

seen in her punishments and rewards of her doll. Her favorite foods are those of her doll. The features of funerals, weddings, schools and parties which are re-enacted with the doll are those which have most deeply impressed the child. The child's moods, ideals of life, dress, etc., come to utterance in free and spontaneous doll play. Deaf girls teach their dolls the finger alphabet, blind ones sometimes want bandages or glasses for their dolls. I know a mother of a sickly child who says she can anticipate the symptoms of all the illnesses of her daughter because they are first projected upon the doll before the child has become fully conscious of them in herself. Children often express their own desire for goodies euphemistically by saying "dolly wants it." Thus the individuality of children sometimes is more clearly revealed in the characters they give their dolls than in their own traits. Long kept dolls thus often grow up as it were with the child, their infantile qualities expanding into those of chilhood and then youth. Paper dolls often with picture food, which seem more ideal and more often associated with fairy stories, betray the evanescent stages of the doll psychosis as it fades into adult life.

Is doll play an early cropping out of mother love as Schneider and Victor Hugo and others think? And are dolls representatives of future children? This appears to be true only in a limited and partial sense, and we must readjust our views upon this point. Some mothers, very fond of their children now, never cared much for dolls, while many of our returns show that unmarried women and childless wives have been most enthusiastic devotees of dolls, and in such cases the doll cult seems often to be most prolonged. It also seems natural for small boys. Certainly other functions are more pronounced. There seems to be a premonition of the parental instinct in early childhood which fades as the dawn of adolescence approaches as the fœtal hair falls off to make place for a ranker growth much later. The saying that the first child is the last doll is, I believe, not true of normal women. The treatment of and feeling toward a doll and a child are more unlike than the teeth of first and second dentition. That the first may hypertrophy and dwarf the second is undoubted. Indeed it is just possible that the ideal mother never plays dolls with great abandon. Despite the increased extent of doll play, its intensity seems a little on the wane among the best people and too many accessories lessen the educational value of this play in teaching children to put themselves in the parent's place, in deepening love of children, and of motherhood.

The educational value of dolls is enormous, and the protest of this paper is against longer neglect of it. It educates the heart and will, even more than the intellect, and to learn how

to control and apply it, will be to discover a new instrument in education of the very highest potency. Every parent and every teacher who can deal with individuals at all should study the doll habits of each child, now discouraging and repressing, now stimulating by hint or suggestion. There should be somewhere (a) a doll museum, (b) a doll expert to keep the possibilities of this great educative instinct steadily in view, and (c) careful observations upon children of kindergarten, primary and grammar grades should be instituted as at an experiment station in order to determine just what is practicable. Children with French dolls incline to practice their little French upon them; can this tendency be utilized in teaching a foreign language to young children? Some children read stories in order to tell them to their doll, and one learned to read by the strength of this motive; with what proportion of children can this be helpful? Many children learn to sew, knit and do millinery work, observe and design costumes, acquire taste in color and even prepare food for the benefit of the doll. Children who are indifferent to reading for themselves sometimes read to their doll and learn things they would not otherwise do in order to teach it, or are clean to be like it. They are good to set it a good example, compose poetry and write compositions for it, their naughtiness is reduced by asking them how they would like their dolls to do so; and to be as good as they think their dolls to be, is sometimes an high ideal. Goethe reproduced dramas with puppets in a doll theater as several of our correspondents have done. To make them represent heroes in history or fiction, to have collections illustrating costumes of different countries, the Eskimo hut, the Indian teepee, the cowboy's log cabin, to take them on imaginary journeys with foreign money is not merely to keep children young, cheerful, out of bad company, but it is to teach geography, history and morals, nature, etc., in the most objective possible way. Plenty of toy animals, figures representing different vocations and trades, poor and rich, etc., would be not only taking the dolls to kindergarten and school, but would bring rudimentary sociology, ethics and science in their most needed and effective form there, too. Dolls are a good school for children to practice all they know. Children are at a certain period interested to know what is inside things, especially dolls; could not manikin dolls be made that were dissectible enough to teach some anatomy? Would not dolls and their furnishings be among the best things to make in manual training schools; and why are dolls, which represent the most original, free and spontaneous expression of the play instinct so commonly excluded from kindergarten, where they could aid in teaching almost everything?

XIII. Anthropological Notes.

Doctor Gustav Schlegel writes in *T'oung Pao* Vol. VII, No. 1.

"Dolls are of recent origin in Europe. In the beginning of the XVth century, during the reign of mad Charles VI of France, an Italian, named Pusello, came from Padua to France with thirty mules packed with boxes and hung with jingling bells. He had in these boxes wooden images of 96 empresses and other celebrated women of the old Roman Empire, carved after statues and coins. He showed them everywhere, gaining a considerable fortune by their exposition. At last the counsellors of the King called him to court in order to amuse His Majesty. When he came to the explanation of the statuette of *Poppea* who, it is pretended, was killed by Nero by a kick in her belly, the king listened with the greatest attention, and at last bought the statuette of Poppea for 50 Parisians sols, about 300 francs of present currency. The king's example was soon followed, and every nobleman bought such a little statue; and as the king's one was that of *Poppea*, every one called his puppet Poppea, of which name the words Poppée, Pouppée and finally Poupée are said to have been derived.

"We leave this etymology to the responsibility of the old chronicles and observe that it is more likely the word Poupée is derived from the Latin *pupa*, a girl (Comp. *pupus*, a boy *pupulus*, a little boy—all derived from the Skt. root *push*, to nourish [Pott, Etymol. Forschungen, etc., Vol. I, p. 193.]). However, it appears that such pouppées or dolls came at that time in vogue as playthings for girls.

"Children in Amoy play with solid puppets made of baked clay, called *Hai dzi-a*, or 'babies;' and Douglas even quotes the saying *Kah na hai dzi-a*, equivalent to our saying, 'As fair as a doll,' said of a pretty child.

"Puppets for theatrical performances were long known in China—but from these to the doll as a plaything for little girls is a long distance, and Chinese girls never played with them.

"Probably the doll, as an article to play with for little girls, has been equally imported into Japan by the Dutch."

Dr. J. Walter Fewkes writes: "The Tusayan custom of giving the symbolism of a god to the doll, to which you refer, may be limited to that interesting people, but I suspect that it has a deep significance, and may show a universal relationship between child concepts and primitive social cult development. The Tusayan name for a doll is *tihu*, personification, not far from εἴδωλον in meaning. A dramatic dance in which gods are personified by men (masked) is spoken of as *tihuni*, we personate (gods). I find, in studying the Tusayan calendar, as a whole,

that dolls resembling Katcinas are made in *Powamu*, the February ceremony, as well as at *Niman*, in July, and presented to the little girls in the same way ;[1] never given to boys.

"Just before I left Cambridge, last November, I installed my collection of Tusayan dolls in the upper story of the Peabody Museum, and if you happen that way, you may find it interesting to see them.[2] A few more were collected last summer, but all duplicates. I noticed last August that one Tusayan child had a China doll hanging to the rafters of her mother's home with her *Katcina* dolls, and she supposed it represented a *Pahano* (American) *Katcina*.

"There is a belief current that the doll made in the kiva and given to the girls is an offering or prayer bearer of the maker to the divinity referred to, and I have noticed small dolls in shops with pahos. I recall, as I write, a diminutive specimen on the cleft of the Mesa west of Walpi where the eagle is buried.

"The numerous references to dolls in ethnographic writings shed little light on the question, how the children regard their dolls, and I fear I can afford you little help. It is very difficult to draw the line between figures used as idols and those used as dolls in prehistoric times. Although I found several stone animals in the graves of Sikyalki, a *prehistoric* ruin, three miles from Walpi, where most of my dolls were collected, I found no dolls there. I have an explanation for this, but highly speculative as yet. Probably the doll-making is a part of the Katcina cult, which is foreign to *prehistoric* Tusayan. At Court, in all the much decorated Sikyatki ceramic, I found no Katcina heads represented. Yet the archaic cults of Tusayan, like *Lalakonti Mamzrauti*, etc., have wooden figures on their altars.

"Since I wrote my doll article I have seen two most instructive winter ceremonials of Tusayan ritual, the *Powamu* and *Palulukonti*. In both of these, which are *Katcina tihus* (dolls) are made in the kivas. On the culminating days these dolls are bartered for food in a ceremonial way. You will find in my Snake Memoir (Jour. Amer. Eth. and Arch., Vol. IV), a description of a game which occurs for four days after the Snake Dance. It is called *Nuitiwa*. This occurs in *Powamu* and *Palulukonti* in the Kivas, but instead of bowls a *masked* person

[1] By mothers of girls after having bartered them with Katcinas.

[2] This collection of dolls, made by the Indians on sacred ground, as exact miniatures of their old outgrown tribal fetiches and idols, is remarkably complete and interesting, as is also, in respect to variety, the more varied collection stuffed away in the Smithsonian Institute. Dr. Fewkes has in Archiv Fur Eth., Vol. VII, pp. 45–73, a full account of these Tusayan dolls and customs, illustrated with a large number of handsome colored plates.

holds up a *tihu* and maids and women struggle to obtain them, rewarding the men with food. The men who hold them are called Huhiyan or Barter *Katcinas*. With this new knowledge we now know of dolls made ceremonially in *Niman Katcina*= *Katcinas* go home, *Powamu Katcina*=bean planting and *Palulukonti*=snake, sun or corn planting ceremony. Now Katcinas are, I believe, divinized ancestors. So there is some connection between doll cult and ancestor worship; what? *quien sabe.*"

W. E. Griffis, in his "Games and Sports of Japanese Children," Tr. of the Asiatic Soc. of Japan, Vol. II, p. 132, 3, London, 1882, says: "On the third day of the third month is held the *Hina matsuri*. This is the day especially devoted to the girls, and to them it is the greatest day in the year. It has been called in some foreign works on Japan, the 'Feast of Dolls.' Several days before the *matsuri*, the shops are gay with the images bought for this occasion and which are on sale only at this time of year. Every respectable family has a number of these splendidly dressed images, which are from four inches to a foot in height, and which accumulate from generation to generation. When a daughter is born in the house during the previous year, a pair of *hina* or images are purchased for the little girl, which she plays with till grown up. When she is married her *hina* are taken with her to her husband's house, and she gives them to her children, adding to the stock as her family increases. The images are made of wood, or enameled clay. They represent the Mikado and his wife; the *kuge* or old Kiôto nobles, their wives and daughters, the court minstrels and various personages in Japanese mythology and history. A great many other toys, representing all the articles in use in a Japanese lady's chamber, the service of the eating table, the utensils of the kitchen, travelling apparatus, etc., some of them very elaborate and costly, are also exhibited and played with on this day. The girls make offerings of *sake* and dried rice, etc., to the effigies of the emperor and empress, and then spend the day with toys, mimicking the whole round of Japanese female life, as that of child, maiden, wife, mother and grandmother. In some old Japanese families in which I have visited, the [150] display of dolls and images was very large and extremely beautiful."

"On this day the entire female sex appears in holiday attire. The whole household store of dolls, among which are many old family treasures, are brought out for the girls and set up in a special room. The living dolls entertain the dead ones with food and drink, the latter consisting, in the absence of milk, of shiro-sake (white sweet cake). In Kio-bashidori, at Tokio, where the shops are large and splendid, and some of the dolls expensive, there is great activity on this day. Formerly the

'Feast of Dolls' fell, as a rule, in April, when the favorite sakura trees are in blossom, and as it resembles our peach tree," Europeans have named it the Festival of the Peach Flowers. J. J. Rein, "Japan: Travels and Researches," p. 439; London, 1884.

"On this occasion, mothers adorn the chamber with blossoming peach boughs and arrange therein an exhibition of all the dolls which their daughters have received; these represent the Mikado and Court personages, for whom a banquet is prepared, which is consumed by the guests of the evening." Bayard Taylor, p. 200; New York, 1883.

"The greatest day in the year for the boys is on the fifth day of the fifth month. On this day is celebrated what is known as the 'Feast of Flags.' Previous to the coming of the day the shops display for sale the toys and tokens proper to the occasion. These are all of a kind, suited to young Japanese masculinity. They consist of effigies of heroes and warriors, generals and commanders, soldiers on foot and horse, the genii of strength and valor, wrestlers, etc. The toys represent the equipments and regalia of a daimiô's procession, all kinds of things used in war, the contents of an arsenal, flags, streamers, banners, etc. A set of these toys is bought for every son born in the family. Hence in old Japanese families the display of the fifth day of the fifth month is extensive and brilliant."

In Corea, at the children's festival, which falls on the 8th day of the 4th month, toys are universally sold, the most popular being the Ot-tok-i, or erect standing one. This is an image made of paper, with a rounded bottom filled with clay, so that it always stands upright; it is feminine, and has many counterparts throughout the world, and is a possible survival of the image of a deity anciently worshipped in Corea at this season, the above date being the birthday of Budda, and this toy perhaps having once been his image. Still more anciently this was the date of the celebration of the vernal equinox.

In Japan, the sitting toy is made to represent the idol Daruma, and its name, Oki agari kobashi, means the little priest that rises up. They must be weighted to rise quickly. Tuschining-yo means clay images of men and horses once buried with the dead to take the place of living sacrifices. Its French name, Le Poussah, is Budda, cf., Butzman. This toy, therefore, is a common plaything, carved by an idol maker, and once an object of worship. (Abridged from a letter by Stewart Culin.) See also "Korean Games," by Stewart Culin.

M. Ollivier Beauregard in Bulletins de la Société d'Anthropologie de Paris, Dec., 1894, p. 689, says that there are two chief theatricals of dolls in Java, the Topeng—mute mask, and Wayang—spectacle in shadow. In the latter a sort of bard

raphsodist operates the dolls and tells them their rôles of love and war to musical accompaniment. The dolls represent historical and mythological personages, and this is thought the best means of teaching history and enforcing its morals early. The spectators are often so interested that they watch the play all night. These Javanese marionettes are of three kinds: 1, very ancient gods and heroes; 2, celebrants of special festivals; 3, common dramatic figures. This is the most important of the native amusements coming at the time of the New Year's Feast, which, in 1890, was from April 21st to May 21st. W. Basil Worsfold, in his "A Visit to Java," says: "This is very simple business; beneath a Punch and Judy show in point of art, but the audience watch the puerile display for five or six hours without intermission. The theater consists of pantomimic representations, with which is mingled a ballet, the basis of which is ancient tradition."

James Mooney, of the Bureau of Ethnology, writes: "Among the Mokis and Pueblo tribes, generally, dolls are commonly representations of mythologic characters, and consequently have some religious significance. I doubt if this be the case among any other tribes, unless, possibly, among the totem-pole tribes of the northwest coast. Among others, probably, and with the prairie tribes certainly, dolls are simply girls' toys as with us, and have no other purpose, and are not used by boys. In other words, as you say, their use is from 'a common human instinct.' The Kiowas, with whom I am most closely associated, have a religious dread of making tangible representation of mythologic beings. Little girls frequently carry and dress up puppies as dolls. Boys never play with dolls. Girls 'play house' with their dolls as with us."

He adds: "With Kiowas and other prairie tribes, dolls are simply girls' TOYS. The dolls represent both sexes, but so far as my observation goes, are used only by girls. Indians lay great stress upon manly distinctions, and boys and girls rarely use the same toys or games."

R. J. Dodge, in Our Wild Indians, p. 190, says: "The little Indian girls are very fond of dolls, which their mothers make and dress with considerable skill and taste. Their baby houses are miniature teepees, and they spend as much time and take as much pleasure in such play as white girls."

Speaking of Eskimo toys, sledges, and dolls, Dr. Boas says: "The last are made in the same way by all the tribes, a wooden body being clothed with scraps of deer skin cut in the same way as the clothing of men." Rep. Bureau Eth., 1884–85, p. 571.

"The Seminole has a doll, i. e., a bundle of rags, a stick with a bit of cloth wrapped about it, or something that serves just as well as this. The children build little houses for their

dolls and name them 'camps.'" Clay MacCauley, Rep. Bureau Eth., 1883–84.

We see thus that among the Pueblo Indians, the Koreans and Chinese dolls are exact imitations in miniature of old tribal fetiches or idols no longer worshipped, made or sold on a special feast day, or given only to girls with formal ceremony. Among the Pueblos this day was the primitive corn feast. Among the Koreans and Chinese it was the day once celebrated as the birthday of Budda. In both these languages the word for doll is from the same root as the word for fetich or idol. In Japan, at a yearly feast, all the dolls of many generations are present, and the living dolls entertain the dead ones. Again it is possible that the ancient custom of Roman maidens of hanging up their dolls to Venus when they loosed their girdles, was primitively a religious rite of consecrating play children to the goddess of fecundity. Still in most languages the word for fetich and for doll have at best only a secondary connection, and that doll play is degraded fetich worship is certainly unproven. The exact origin and meaning of the Lares and Penates is too uncertain to base argument upon.

Dolls are found buried along with the children in the sarcophagi of the ancient Egyptians. A little girl figure was found in one of the buried cities with a doll clasped to her breast.

Baring Gould, in his Strange Survivals, p. 139, London, 1892, says: "A white marble sarcophagus occupies the center of one of the rooms in the basement of the Capitoline Museum in Rome. The sarcophagus contains the bones and dust of a little girl, and by the side is the child's wooden doll, precisely like the dolls made and sold to-day. In the catacombs of St. Agnes, one end of a passage is given up to the objects found in the tombs of the early Christians. and among these are some very similar dolls taken out of the graves of the Christian children."

W. H. Holmes, Bureau Eth. Rep., 1884–5, p. 152, thinks that dolls found with other relics in graves in the province of Chiriqui were possibly toys, but more probably tutelary images.

Miss Alice Fletcher writes: "Among the Indian tribes with which I am familiar there is no special treatment of dolls. All depends upon the particular child's imagination and imitative powers.

"As far as my observation goes, and I can learn, the religious ceremonies of the tribe are not mimicked, although some of the practices of the same are. The religious rites of the white race are reproduced by the children. As far as I can yet discover, there is no relation between dolls and a fetich or any emblem."

XIV. Etymological Notes.

Doll, says the Century dictionary, is certainly not derived from idol, and suggests its derivation from a playful contraction of Dorothy. Other lexicographers agree, suggesting possible derivations from O. D. *dol*, a whipping top; or dollen, to rave. Nowhere is there any certainty as to its derivation.

Skeat (Etymological Dic. p. 176), says: Doll, a child's puppet (Dutch), originally a plaything. Old Dutch *dol*, a whipping top. Compare Dutch dollen to sport, be frolicsome. From the same root as Dutch dol (English Dull), mad. Compare provincial Eng. Doil, strange nonsense; dold, stupid: dale, mad, dalics, a child's game.

Doll, properly a bunch of rags. Frisian *dok*, G. docke; a little bundle as of thread, a wisp of straw, also a doll; Swabian döckle, a doll; dokheln, to play with a doll. Banff (Scotland) *doll*, a large lump of anything. So in Finnish *mippa*, a flock, rag, patch;

Trench says that *doll* is not found in English before the time of Dryden.

Nukki, nuket, a doll, lusoria puellarum ex panniculis.

Κῦραι = dolls made of clay and painted, cf. Plato's Theat., p. 136. Demosth., Fil. 1, p. 47. Only late writers mention wax. These clay figures were not merely children's dolls (also called νύμφαι) but also images of all sorts.

Δαγυς a wax doll. Theoc. 2, 110, used in magic rites, a puppet was probably an oriental word, πλαγγων also = wax puppet, doll.

Pupa in Latin means a girl, then a puppet doll.

Prof. Toy states: "In the Semitic languages there is no connection between words for *doll* and *fetich*, deity, etc. In the ancient (pre-Christian) Semitic languages, we know of no word for *doll*. Arabic (and so Persian) has a word which means *plaything* (from verb *play*). If there was ever such connection in these languages, it has vanished."

In T'oung Pao, Dr. Gustav Schlegel says that "dolls of great variety exist in Japan, and are imported into Amoy, where they bear the name of *tsit sien i-a*, after the name of the Buddhist idols called *tsit sien put*, which Mr. Douglas translates by 'solid image'" (Dictionary of the Amoy Dialect, p. 388 A). (Dr. Schlegel thinks "stuffed image" a better translation.) "In Canton these foreign dolls are called *Kung tsai* or *Yeung P'o-sat;* i. e., 'Western idols' (Bôdisattras), which latter name clearly shows wherefrom dolls have been introduced into China. The dolls made by the Corean girls strongly remind us of the English doll, which properly meant a 'bunch of rags.'"

In Frisian they were called *dok*—German *docke;* in Swabian *dockle*. King John says:

> "If I were mad I should forget my son,
> Or madly think *a babe of clouts* were he."

Doctor Gatschet writes: "In the Nahuatl there were and *are* two terms for *doll*, nenetl and quauhcococo-netl. Nenetl means (1), the nature of woman (vulva); (2), idol; (3), doll. Any one who saw the most ancient figurines of stone or clay representing doll and idols, or rather caricatures of them, from ancient Greek, Asiatic, Syriac and other Oriental graves, must have been struck by the constancy by which the vulva is represented there, in large and sometimes enormous proportions. This recalls the *nenetl* as above. Quauhcococonetl is composed *of* quauitl pieces of wood, block, stick, and *of* conetl offspring, girl or boy; a word principally used by women.

"In one of the Algonquin languages, studied by me, *doll* is the same word as baby. Was it Shawnee?

"In our Cree, Ojibwe and Delaware dictionaries, *doll* is not mentioned at all.

"In Hidatsa or Minnitari, Upper Missouri River, *doll* is makadishtake; here kadista is *small*, *little*; makadista, young person, or child; —ke instrumental suffix. The whole word thus means: 'what is used by a young person.'

"In Klamath and Modoc, of Oregon, ámash is *doll*, for which I know no derivation.

"The Blackfoot language has atunskán, plur. (dolls) atunskaniks. (Rev. Tims, Gram. and Vocabulary, p. 127.)

"The Micmac has for *doll* amsudāgan, spelt by S. T. Rand amsoodaagun. The ending gun is the well known Algonquin instrumental suffix—agan—hagan, etc., —ikan.

"In the Tonkaway language doll is yä'kwenan, literally, 'something made,' either manufactured object, or manufactured person or animal, likeness of such one.

"The Passamaquoddy word for doll, which is ampskudahekan, and the plural ammpskudahekanek, literally means figure of picture as made on wood and other substance, in this instance there is no connection with the word for God, supreme being or idol."

Prof. G. L. Morse writes: "There is no relation between idol and doll in Japanese. Ningio = doll, nin = human, gio = image. Gūzō = idol, gu = image and zo = figure. Omamosi = fetich = honorable guard or Kami = God, literally upper, anything superior, even the government is called Kami."

Dr. D. G. Brinton writes: "In the few languages in which I have compared the words, I do not find a common radical to the word for doll and for divinity. Thus in the Micmac dialect

of the Algonquin, we have for doll amsoo-dāāgăn, which has no relation to manto, but rather with ris, me-tauāgan, a plaything from the verb to play. In the Nahuatl, doll is 'quauhcococonetl,' and 'nenetl.' The former word means 'little child of wood;' the latter, 'little idol or image.' 'Nenetl' is originally the female generative organ, and by transfer the neonatus or little creature which comes from it; hence 'conetl,' male or female infant. The words have nothing to do with 'teotl,' divinity.

"While certain dolls may be made in the image of fetiches or idols, the sentiment of playing with dolls seems altogether too spontaneous and independent to have been derived from ceremonies."

Dr. Franz Boas writes: "In the languages with which I am familiar, and so far as I am able to look into my material at present, the word for doll means 'figure of a man' (Eskimo), or 'carving,' or figure, or something of that sort, inuyak (Eskimo) doll, K'èk (Kwakiutl) doll = carving." Lucian M. Turner, Bureau Ethnol. Rep., 1889–99, p. 198, gives the meaning of the Eskimo word for doll, inug-wak, as little man. Dr. Boas says: "The Eskimo does not make images of the tornait or other supernatural beings in whom they believe," yet they play dolls.

Miss Alice Fletcher writes: "In the Omaha language, the word applied to doll is the same as that signifying a child, with the addition of the words signifying clay. This composite word probably has come into use from the dolls furnished by traders, these having composition heads. The word, however, is now generally applied to all kinds of dolls, even those made of rags, and sticks and corn cobs. Children frequently make clay images and play with them. I have some curious specimens in my collections.

"The Dakota word is of similar construction to the Omaha, meaning literally, made-boy. The Omaha name is Zhinga-zhinga-wathathun, child-clay; Dakota: Ho-ksin-ka-ga-pi, boy or child, made or cut out."

Mr. Mooney writes: "In Kiowa, god is *dakra*, doll is *heni*. *Dakia* is from *dai*, 'medicin,' 'sacred,' etc., *kia* 'man.' *Heni* is not clear, but the *i* is a suffix signifying child, offering, or little. I do not know the Cherokee name for doll, but it is not *adawehi*, signifying a 'supernatural being,' nor is it anything similar."

During the two years that have intervened since the first syllabus was issued this subject has steadily grown, in both interest and importance to the editors' minds, until this paper seems but the faintest and feeblest beginning of the many more

special investigations that ought to be made in its field. Where could the philologist, e. g., find a richer field for the study of the principle of analogy, the law of diminutives, and of conferring names generally, and I know not what else, than in a far more extended and systematic investigation of dolls' names. The whole subject of idolatry, the use and psychology of images and pictures of God, Christ, angels, saints, etc., suggests, but only begins to reveal its richness here. When we reflect on the rôle that tutelary and ancestral images, puppets, heroic and mythological dolls have played in the past, the question must force itself upon our minds whether not only some well devised form not only of image worship, but even of fetichism, might not be made as helpful in early religious as object lessons have been in secular education since Comenius. We do use pictures and statuettes of classical mythology to great advantage; are we now advanced and strong enough to utilize the powerful instinct of idolatry still further, so as to get its stimulus and avoid its great and obvious dangers? Children's ideas of life, death, soul, virtue and vice, disease, sickness, all the minor morals of dress, toilet, eating, etc., of family, state, church, theology, etc., are all as open as day, here, to the observer, and, although unconscious to themselves, almost anything within these large topics can be explored by the observing, tactful adult, without danger of injuring that naïveté of childhood which is both its best trait and its chief charm. What topic yet proposed for child-study is not, at least in part, illustrated here?

Imperfect as this study is, however, alas for the tact and intuitive power of the parent and kindergartner that does not find in the children's and mother's records above, a wealth of helpful and immediately practical suggestions for their daily task of unfolding childhood from within. We have carefully refrained from psychologic or pedagogic generalizations, which have been often very tempting, because the time has not come for conclusions or specific rules of application yet. Prematureness and rashness here would involve danger of great harm. But, as further researches are needed on the scientific side, special studies on the practical side are no less desiderated. All readers, therefore, who have used or shall use dolls in the nursery, kindergarten, Sunday or day school, or anywhere else, and find ways of making them a help in any church or school study, in causing children to be more tender, obedient, neat, or otherwise better, will confer a favor by forwarding to the PEDAGOGICAL SEMINARY anything written or printed, or otherwise descriptive or illustrative of such work.

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THE SUGGESTIBILITY OF CHILDREN.

By MAURICE H. SMALL, Fellow in Clark University.

Belief in the power of men to influence men is very old. In the blindness of antiquity, it endowed certain classes with supernatural power and made them mediators between their fellows and the gods. It gave the Egyptian doctor prestige, for, in the Ebers Papyrus, an Egyptian medical document of 1552 B. C., there is a record of a case of laying on of hands and raising them in benediction to drive away disease. It gave a prerogative to the Persian Magi while they sang their incantations and taught kings and philosophers and astrologers the mysteries of sacred things. It followed the Indian fakir when he told his beads and set the votive lamps aglow.

This belief had its origin in *mystery*. Not all could hold direct communion with the gods. Heraclitus says: "The Lord whose temple is at Delphi, neither utters nor conceals his meaning, but shows it by a sign." The same philosopher hints at the *charm* of mystery when he says: "The *hidden* harmony is better than the open."

To understands these "signs," to reach the "hidden harmony," and to gain influence with their fellow men, soothsayers and prophets sought seclusion; Massalian priests practiced their ecstatic dancing; and Hesychast monks, or "Navel-Souls," upon Mt. Athos, shut out the world with their fixed stare, and fell into trance-like meditation.

From time to time since then, men have tried to discover how it is that one person may influence the psychic activity of another. After many centuries, superstition was forced to yield to the instinct of scientific inquiry. Mesmer tried to answer the question on the ground of animal magnetism; Puységur met it with his psycho-physical theory; the term "hypnotism" came into use, and while the great school of the Salpêtrière, explains the hypnotic condition as a *real neurosis*, the school of Nancy declares with equal emphasis that the "*idea* makes the hypnosis"[1] and that "the hypnotic state is a psychic condition in which the subject is simply open to suggestion in a greatly increased degree."[2]

[1] Bernheim: Suggestive Therapeutics.

[2] Dr. C. L. Tuckey, Faith Healing in Medical Treatment; Nineteenth Century, Dec., 1888.

This explanation makes hypnotism only an *extreme form* of a universal impulse, the simplest effect of which, is seen in the reaction of natural objects on the mind through sense perception, and in the influence, direct or indirect, designed or accidental, which individuals exert upon one another everywhere.

In this paper, it is the aim to show some of the results of psychic activity, intentionally induced by indirect methods, and also to show in the records of imitative acts, which are simply the motor expression of a psychic state of which suggestion is the cause, the more accidental influence of environment on children, and it seems both legitimate and sufficient, to regard "suggestibility," in a provisional way, as a natural condition of mind which makes it possible for psychic activity to be induced in a human being by means of a hint, sign or symbol; an indirect question, proposition, association, or kindred stimulus.

In this paper, Section A presents a record of experimental work; B, a classified record of 4,335 cases of personal experience furnished by educators, pupils, and parents; C, some inferences from the data, with hints about their relation to education.

A. EXPERIMENTAL WORK.

I. In Groups.

The general *aim* of the experiments was to see how far illusions of sense could be produced by simple means in healthy children, grouped in their own schoolrooms. No attempt was made to estimate the part played by imitation in producing the results; it is so closely related to suggestion that separation is not possible, yet, care was taken to reduce the chance for it to a minimum. The work was done with nine grades, the last including the four classes of a high school. No pupil was passed over in any test excepting at his request.

1. Tests for Illusion of Perfume.

Means. An atomizer with a Newman spray tube, some distilled water, and, incidentally, some very faintly perfumed cards, one of which was placed in the hands of the teacher, while another was given to some pupil who was asked to step to the desk and see whether the card was perfumed or not, but who was charged not to give judgment until asked.

Method. After a moment of talk about matters of immediate interest to the grade in which the experiment was to be made, in order to gain the attention of all, the pupils were asked about some of the pleasures of last spring—walks in search of flowers, what flowers came first, where they were found, why boys and girls like flowers, and how men preserve the fragrance of May-

flowers, violets, apple blossoms, and roses. Then they were asked whether they thought they could tell if the odor of any flower were in the room.

I next placed labelled perfume bottles on the teacher's table and, taking the atomizer, told the pupils that I was about to make a spray in the room, as they might have seen friends at home spray plants; that if any one felt sure that he could smell perfume after the spraying, I wished him to raise a hand at once and hold it upraised until I could count hands in the room at the end of the trial, which lasted about a minute; but that I wished no hand raised, unless the pupil thought he got perfume.

A generous spray was then made in two or three places in the room. The teacher in each room assisted in the counting, until the pupils of the Fourth year were reached. From this grade, the pupils *wrote* the name of the perfume which was suggested to them.

Results: Grades I, II, III. The children of Grade I at first seemed to manifest an expression of wonderment in their faces, but like the other grades, they were eager and very attentive. When they saw the spray, smiles went over their faces, their hands went up, some declared that they could "smell it," that it was "nice" or "real strong," and some wanted "some on their handkerchiefs." When asked by their teacher if they were sure that they were not mistaken, many declared themselves "sure." In two rooms of Grade II, I made a second spray immediately after the first had been recognized, and asked if the pupils noticed any change. Several at once answered: "It 's a good deal stronger."

One reason for writing the name of the perfume in all trials after Grade III, was that the first teacher in charge of a room of pupils in Grade IV, said that her pupils would follow certain leaders if they had an opportunity. In Grades VI, VII, and VIII, there was a marked uncertainty of manner. The pupils hesitated more about writing than those in the grades before them. Certain movements seemed to indicate that it would be a help to them to know what their friends were writing. The 23 in Grade VIII (see table) who "thought," for an instant, that they "got the perfume," were not at all sure. No one in this room wrote. Some of the number said that "for a moment during the spraying," they "thought that they got the odor of Mayflowers, then of apple blossoms," but that "it went away and did n't come back."

The names written in the different rooms were in themselves a suggestion. Mayflowers, violets and apple blossoms were the favorites in the order named, but the one most frequently mentioned in the introductory talk always secured most votes. About 8 per cent. of the names were scattering. Of these,

"White Rose" and "Lily of the Valley" were the favorites. "Lavender," "Heliotrope," and "Lilac Sweets," "Musk," and "Jockey Club," were named several times each, while "H-o-a-r-t-s C-l-o-n-e" and "H-o-r-t-s C-o-l-o-n" appeared once each as a compliment to "Hoyt's Cologne."

It is interesting to note that three teachers, two of whom were in a side room during the experiment, got a faint suggestion of perfume.

The table which follows, shows the numerical result in 540 cases. The letters, S, F, N. S, O, and G. C, at the head of the columns, stand respectively for, "strong," "faint," "not sure" (degree words used by the pupils) "no perfume," and "given card."

TABLE I.

	Perfume.				No Perfume.				
Grade.	S.	%S.	F.	%F.	N.S.	%N.S.	O.	%O.	G.C.
I,	93	98	–	–	–	–	2	2	1
II,	62	95	–	–	–	–	3	5	1
III,	55	83	–	–	–	–	11	17	1
IV,	55	63	11	13	–	–	19	23	4
V,	20	50	8	20	–	–	12	30	2
VI,	19	27	7	9	10	14	35	50	3
VII,	4	13	–	–	–	–	27	87	1
VIII,	–	–	–	–	23	67	11	33	2
High,	–	–	25	47	–	–	28	53	4
Total,	308	51		33			148		19
				392				148	Av.% Illus'n, 73

In one room of Grade VI, the work was done immediately after a recess. The work in Grades VII and VIII, was taken up just after school opened in the morning. The writing of the name of the perfume seemed more of a distraction here than in the lower grades. It would be interesting to know how far these matters would account for the great variation in results in these Grades, but it could not be determined at the time of the experiment. The results give much higher percentages of illusion in older pupils in the case of individual tests. Compare with table III, Individual Tests.

2. *Tests for Illusion of Taste.*

General. The subjects were children of Grades I, II, III, and IV. Salt, sugar, and quinine were the substances used. Salt was omitted after the second grade in order not to take too much time from the work of the class. *Distilled water* was used in the tests. The teachers recorded results.

Method. The pupils were asked if there were any in the room who did not know the taste of *sugar*, and how much sugar it would take to sweeten a common sized cup of tea or coffee.

Then they were asked if any one present would like to see if he could taste a very few grains of sugar. There was always an eager desire to try, and some pupil was at once asked to fill a wide-mouthed, four-drachm vial at the faucet. He was then allowed to put a few grains of sugar into the vial, which was immediately put into a box containing three similar vials that had been previously filled with distilled water. The box also contained three small pipettes for dropping the liquid. The child selected was given a taste of the sugar solution. After being asked to tell just what he thought, each pupil in a room was given an opportunity to taste, but distilled water was used instead of sugar solution.

In a few cases, the liquid did not taste sweet on the first trial, but a repetition with a larger quantity usually produced the illusion. When increased quantity failed, pipettes were changed and the pupil was given sugar solution.

During the sugar test, the faces of all were bright and smiling. There were no odd movements of eyes, mouth, or body. Each pupil gave judgment almost as soon as the water had dropped upon his tongue. The degree-words were: "sweet," "real sweet," "a little sweet," "it's good," "it's as sweet as a cup of tea with a whole spoonful of sugar in it," and one declared it "just right." A few timid ones in Grades I and II, did not wish to try. Some of these were old enough to have been in Grade VI, which may help to explain their lack of desire to make the trial.

The results appear in

TABLE II.

Grade.	Number Pupils.	Very Sweet.	Little Sweet.	Total % Sweet.	Did not Taste Sw't	Error.	Total % D. N. T. S.	Did not Try.
I,	94	76	16	98	–	–	–	2
II,	70	47	16	90	4	–	6	3
III,	64	24	33	89	7	–	11	–
IV,	87	18	47	74	3	17¶	23	2
Total,	315	165	112	88		31	10	7

¶ In the experimenting, it was the plan to mention but one substance at the time of any test, but in one room of Grade IV, the idea of bitter substances was brought in by accident so as to be contrasted with sweet substances. The first ten pupils in the room pronounced the water sweet. The eleventh said "bitter," and eleven of the fifteen remaining declared it "bitter" and persisted even when I gave them genuine sugar solution. In another room, two girls said, "It tastes like perfumery." The test followed that for illusion of perfume.

The same method was followed in using *salt* in Grades I and II. It was apparently less pleasurable than the sugar test. The faces of the pupils were more sober, and in a few cases, slight contraction of the muscles about the mouth was noticeable. There were more who did not wish to try the experiment than in the sugar test. The results were: whole number pupils, 89; said "salt" in some degree, 75; did not taste the salt, 4 (three of these said, "It is sweet"); did not try, 10. Of those who made the trial, 95 per cent. got the illusion, 5 per cent. did not.

The test with *quinine* showed the most marked effect of suggestion both in immediate, and in after signs. These signs were: (1) careful watching of the face of each pupil tested, by all the others; (2) in the faces of some pupils, an expression of perplexity that changed to dread after others spoke words that gave the idea of great bitterness, and these did not "wish to try" when their turn came; (3) rapid opening and shutting of the eyes while waiting for the water to drop from the pipette upon the tongue; (4) the *bitter face*, deep wrinkling about the eyes and mouth; (5) on the part of many who made the "bitter face," little nervous shakes of the head and body. Some laid the head down upon the arm for a moment; others wiped the mouth out with a handkerchief, and two boys in Grade II, spit the water out as soon as they tasted it, declaring it "awful bitter."

The *Results*. 288 pupils, about equally divided between Grades I, II, III, and IV, were concerned in the test. 218, or 90 per cent. of those who made the trial, pronounced the water bitter in some degree. 23 did not find it bitter (six of these said "sweet"); and 47 did not feel willing to try.

The degree of bitterness was expressed by the words, "a little bitter," "bitter, ugh! I don't like it," "awful bitter," "tastes like bitter medicine," "tastes like Paine's Celery Compound," and one boy who declared the water "just right" in the *sugar* test, came through the *quinine* test with the opinion that it was "bitter, but not so awful bad."

Ten minutes after the quinine test, I asked in several rooms if any could still taste the bitter substance in the mouth. A large number said they could. In some cases the reflexes of the bitter reaction appeared in a slight degree, and I saw one nervous little girl wipe her tongue again. In one room of Grade I, there was a boy much older than the rest in the room. He pronounced the water "just a little bitter." In the front seat of the last row, a tiny boy said, "just a little bitter." The teacher in charge of the room said, "I was amused to hear Harry say what his brother said so long before."

The most persistent suggestion of bitterness was that of a boy in Grade IV. When he entered school on the morning

after the test in his room, he said to his teacher, "That bitter stuff that Mr. Small gave us yesterday, made me awful sick after I got home." A case somewhat similar was that of a little girl in Grade I, who had not missed a day for the term. Soon after my entrance to her room, this little girl became ill. She was excused from school, but speedily returned with her mamma. The lady received a cordial invitation to enter the room and examine materials and methods and speedily convinced herself that the child was wrong in saying that there was "a doctor up to school" who was "going to vaccinate everybody."

3. *Test for Illusion of Sight.*

The *means* used were a small wooden box with a little windlass passing through its sides near one end, and a toy camel made of cast iron and heavy enough to slide on a smooth table with perfect steadiness. A black thread, two feet long, was tied around the camel's neck, and the free end was then passed through a hole in the end of the box which was kept next to the camel during the experiment, and fastened to a stick. Within the box and passing over the windlass, was another thread which unwound from a concealed windlass near the rear of the box. When the box was held in a vertical position before a roomful of pupils, it was possible to slide the cover half way up and show the working of the windlass without revealing the fact that the thread which played over it was not connected with the neck of the camel.

The *Method.* After showing the action of the windlass, the apparatus was placed on a table near the center of the platform, with the thread nearly straight. The directions were, "Fix your eyes on the tip of the camel's nose." "When——— thinks all have their minds set on the work and says 'ready,' the crank will be turned as slowly as possible; if you see the camel move, raise a hand and keep it up." Each trial lasted a minute. The box was always pressed down upon the table by my left hand, while the crank was being turned by the right.

The *Results.* 381 pupils made the experiment. Grades I, II, III, IV, VI, and VII, were included. 291 saw the camel move, although it never did; 90 saw no motion. The respective per cents are 76 and 24. In Grades I–VII, the per cents of illusion were respectively, 96, 81, 80, 70, 34, and 71. The sixth grade room which gives the low per cent. is the same that lowered the per cent. of illusion for that grade in the perfume test. The room was large and light, and the experiment was made soon after recess. This experiment is repeated in the Individual Tests and a comparison of results will be interesting. See table III.

II. Individual Tests.

These tests were made with thirteen boys and girls in the two upper classes of a high school, and eight boys and girls in the seventh grade of grammar school. All were in normal health and strength. They were also acquainted with the experimenter. For this reason, there was not the slightest nervousness or anxiety in any case to impair the judgment.

1. For Illusion of Taste.

The subject filled two vials with water, put a little sugar into one and a little salt into the other, and sat down at the experimenting table. After being blindfolded, each was asked to tell the taste of the liquid dropped from the pipette upon his tongue. Distilled water was used, as in the Groups. After a trial, the subject removed the bandage from his eyes, poured the water from one vial, filled it again after rinsing it carefully, and put some quinine into it. The test was repeated in all its steps just as before. The results of this test will be shown with those of the whole group, in table III at the end of this series.

2. For Illusion of Motion.

The camel was used as in the Group work. It was placed about twelve feet from the observer, and was placed so that, if moved, its motion would be at right angles to the line of vision in the first trial; in the second, parallel to that line. In this experiment, two who did not discover motion said, "My eyes are not very good, any way." Some who saw motion, determined it relatively. One of these "saw it" (the body of the camel) "move *just a little*" over a vertical joint in the sheathing of the stair-railing above which it was placed. Another "saw the opening between the camel and the wall, grow just a little wider."

3. For Illusion of Heat and Cold.

In this experiment, a lamp, a pin with its point pushed through the rubber tip of a pencil, and a smooth-pointed piece of wood were used. After an area near the middle of the back of the hand had been pointed out, the subject was blindfolded. He was told that I wished to judge of his ability to discriminate degrees of heat and cold. The words used in the experiment were: "I shall now heat the pin in the flame of the lamp. I will not burn you, for I will try the pin on my own hand first." I usually succeeded in burning *myself*, however, and at once told the subject, at the same time remarking, "Now I am bringing it straight toward the spot on the back of your hand. There! do you feel it?" At this instant five of the twenty-one felt

the hot touch plainly, although the pin had not touched them at all. One of the grammar school boys, in describing the sensation, said, "I felt a feeling shoot right through my hand."

A high school boy, when asked if he noticed any smarting after the "burn," replied: "It doesn't exactly smart: it feels sort of funny; I can't describe it."

When the illusion could not be produced by mere words, the pin was heated again and the subject was touched lightly and quickly with the smooth-pointed piece of wood. At the first trial, nearly all felt, first a light touch, then a sensation of heat; but some jerked the hand from the table the moment they were touched. After being assured that they would not be burned, another trial was agreed to by them, and they readily recognized both touch and heat.

The experiment for Illusion of Coldness is less satisfactory than that for heat, because of the presence of the "cold spots" in the skin. These had not been previously located and marked. This fact, however, would in no way affect three who felt the cold touch without having been touched. In this experiment, the pin was cooled on a frosty window-pane, but the subjects were touched with the pointed wood, as in the previous experiment. A young man of seventeen, felt the *heat* of the pin, but did not get any sensation of coldness.

4. For Illusion of Touch.

On the right hand of each subject, an area about an inch square was located between the wrist joint and the thumb, another of the same dimensions on the middle of the back of the hand, and a third, on the right side of the hand, between the wrist and the little finger. The eyes of the subject were then bandaged and all was ready for the trial. The aim was to see whether it is possible to produce sensations of itching, tickling, or light touch upon the hand, without touching it at sensitive points.

Taking a finely ravelled thread, I said to the subject: "We will try the area named first." "I am bringing the thread down toward it. If you feel it, I want you to tell me where, and what the sensation is like. There! if any one were touching my wrist, perhaps I should feel the lightest little touch imaginable." In the cases in which a reaction was secured without stimulation, I was usually interrupted with, "Now I feel it!" Then my description went on: "In a moment, it might grow plainer as though a mosquito were alighting on the spot, and it might change to an itching as though he were just beginning to bite." At this point, a girl of sixteen scratched her hand with a good degree of energy, and a boy of twelve repeated the act three times. In his case, it took the combined

efforts of his father, his mother, and the experimenter, to convince him that his hand had not been touched. In only six of the twenty-one cases was there a result without stimulation. The others apparently knew nothing of dermal sensations.

After having tested each in this way, I removed the bandage from the eyes, and drew the frayed string lightly over the hand. When the eyes had been bandaged once more, I said, "I shall now touch you lightly with the tip of this pencil. If you feel it, tell me where." The subject was always touched on the nails, where so light a touch could not be felt. In eighteen cases, the touch was located on the "left side of the wrist," "right side of the wrist," "back of the hand," "near the base of the thumb," and three failed to get any sensation. Two located the sensation outside of the areas named at the start.

5. *For Illusion of Heat Waves.*

The area to which the attention of the subject was called was a narrow one extending from the wrist along the back of the hand to the middle finger. Each subject then saw me light a match and move it backward and forward over this area. At the same time I described the sensation of warmth produced by the waves from the match. The subject was next seated at a table on which he laid his hand palm downward. His eyes were bandaged, a thick note-book was held about six inches above his hand, and a match was lighted and moved backward and forward close to the upper cover of the book. When the match was heard burning, nearly all the subjects felt waves upon the hand. Several said it "felt as though some one were fanning warm air" over their hands.

In the table below, R shows that an illusion was produced by the method and means outlined in the description of the five preceding divisions: O, indicates "no illusion;" RR, very marked illusion; J, jerked hand from table; S, scratched hand; "soda," "tastes like soda;" Il. O. S, illusion without stimulation; T, illusion after stimulation; W, illusion of heat waves.

In the results under "Motion," the dash marks cases in which the camel was thought to move parallel with the line of vision as well as at right angles to that line.

In these experiments, out of 21 possible chances, illusion of taste occurs 17 times for sugar, 17 for salt, and 17 for quinine; the illusion of heat was noted in 19 cases, and that of cold, in 20. There are 6 cases of illusion of touch without stimulation, and 18 cases after the subjects had been made to fix attention upon the sensations of the skin upon the hand by stimulation with the string. Waves of heat were felt in 17 of the 19 cases tried. 11 of the 13 subjects from the high school saw the camel move in one direction; 7 saw it move in two directions.

TABLE III.

Subject.	Sex.	Sweet.	Salt.	Bitter.	Motion.	Heat.	Cold.	Il. O. S.	Il. T.	Waves.
W—n.	M	R	O	R	R	RR	R	O	O	O
S—n.	F	R	O	R	R	R	R	O	RR	O
L—r.	M	O	R	R	R	R	R	O	O	R
A—s.	F	R	R	R	R–	R	R	O	R	R
C—n.	F	R	R	R	R–	RR	R	O	R	R
T—e.	M	R	R	R	O–	R	O	O	R	R
S—n.	M	R	R	R	O–	R	R	O	R	R
S—r.	M	R	R	R	OO	R	R	R	R	R
F—x.	M	R	R	R	R–	R	R	R	R	R
S—e.	M	R	R	R	R–	O	R	O	R	R
O—d.	M	O	R	R	OO	Rj	R	R	R	R
G—n.	F	R	O	R	R–	O	R	O	RR	R
F—e.	F	R	R	O	R	R	R	Rs	R	R
I.	M	O	R	R		RR	RR	R	R	R
II.	F	O	R	O		RR	RR	O	O	R
III.	M	R	R	O		R	R	O	R	R
IV.	F	R	R	soda		R	R	O	R	R
V.	M	R	O	R		R	R	O	R	R
VI.	F	R	R	R		R	R	O	R	R
VII.	F	R	R	R		R	R	O	Rs	
VIII.	M	R	R	R		RR	RR	R	R	

B. CLASSIFIED RECORDS FROM SYLLABUS XI, "SUGGESTION AND IMITATION."

The eye of the child is quick to see whatever is novel; the ear, alert to hear every new sound; the soul, always waiting birth into new experience. The child feels a relationship to all life. To him, the flowers by the wayside are alive with grotesque faces; the trees are voiceful; the waters of the streamlet, playing children. In the thunder cloud, he hears an angry, muttering giant; in the breeze, a song; in every bird-note and animal-cry, an echo of the past.

To the harmony of these sympathetic vibrations with the past, it is always necessary to add that of those impulses of the child-soul which find expression in moral dynamics. The child is born to aspire. He wants to be a man. His idea of what a man is, comes wholly from what he sees of the man in action. Every change in attitude, every new position of the head, every movement of the lips, every frown, squint, change in facial expression, every gesture of the adult, suggests to the child new possibilities in himself. "How is it done?" "Can I do it?" are the questions that follow each new act observed. The motor mechanism is set to work. The new act is reproduced. The child is more a man, because he has assured himself that

he can do those outward acts which, so far as he is aware, are the content of manhood.

Nothing can be more interesting or instructive than records of actual cases of suggestion and imitation. Those which follow, are typical examples of

I. IMITATIONS OF A SPEAKER OR SINGER.

1. *Attitude.* Children, 7–9. "My pupils often play school. One noon I watched them through the open door. They took turns at teaching. Every girl put work on the blackboard for her class, and, while doing it, stood with her left hand behind her back. It was my habitual attitude. They simply imitated everything I was accustomed to do when teaching."

2. *Attitude.* Girls, 5, 7, and 9. "These girls play school every day. Each imitates the teacher in the room in which she belongs. The girls have different stoops for each room, and copy the voice and manner of the teacher."

3. *Position of Lips.* Girl, 9. "L. until recently had a teacher whose under lip protruded. After a short time, L. held her lip in the same position. Presently she was promoted. The teacher in the new room always kept her lips tightly drawn. L. gave up the old habit and now goes about with lips compressed. We cannot break her of the habit."

4. *Squinting.* Boy, 5. "Last fall, he went to school for the first time. Soon after, his mother noticed that he had a peculiar squint when very much in earnest. She found later that he got the habit from his teacher."

5. *Position of Head.* "I once heard a fine singer. I noticed the manner in which she stood, held her head, and sang. As soon as I was alone, I tried to sing, keeping the same attitude and poise of the head."

6. "*Cross Eyes.*" Girl, 10. "I had a 'cross-eyed' schoolmate. I thought it must be nice to look in two directions at once, and practiced trying to look that way until my own eyes were seriously injured."

The same craving to test personal power and to gain new experience, that appears in the preceding records, is seen in the tendency of children to copy the lisps, drawls, dialects, inflections, mannerisms of speech, and slang expressions of others, and to reproduce as nearly as possible, the beating of drums, the screaming of whistles, and the ringing of bells, as well as the voices of animals and other natural sounds.

Three classes of reasons are given for these imitative acts: 1. To see if the individual *can* reproduce them; 2. To see how they would *sound* when reproduced; 3. To learn how the vocal organs would *feel* while reproducing them.

Additional illustrations will be found in a continuation of the personal records.

7. *Head, Lips, and Hands.* Adult. "Mrs. E.'s daughter read an essay at graduation. Mrs. E. watched her closely and moved her head, lips, and hands exactly as her daughter did."

8. *Mannerism.* Girl, 10. "My sister, at ten, struggled to wipe her nose after the manner of a very pretty and stylish woman at church."

9. Girl, 11. "At eleven, I aspired to say 'pardon me' as the daughter of a professor used to say it. At about the same time, I caught the word 'penetrate' for 'get through,' the phrase, 'I perceive,' for 'I see,' and other expressions of the same kind."

10. *A Drawl.* Girl, 12. "One of our ministers used to speak very slowly. Whenever I spoke of him, I would roll the r's and talk slowly like this; 'It's —a—very—fine—day.'"

11. *Dialect.* Boy, 5. "My little cousin took a great fancy to our English washerwoman. He soon caught her habit of dropping or inserting the letter 'h' and used to sing, 'Little Hannie Rooney is my Sweet'art.'"

12. Girl, 3 yrs. 8 mos. "Madge was taken to Scotland. When she returned, she could not speak plain English. It took three months to break her from the Scotch dialect."

13. Boy, 5 or 6. "Charlie played with Irish boys about his own age. In a short time, his father could scarcely recognize him by simply hearing him talk. His dialect was very marked."

14. Girl, 8. "My niece tries to speak like her teacher. The teacher is French and has a peculiar way of pronouncing many words."

15. Girl, —. "I had a schoolmate named Ratowski. When I first heard the name, I was constantly adjusting my vocal organs and wondering how the name would sound, if I were to pronounce it."

16. Adult. "When I hear an odd or striking note in music, my throat seems to go through the same strain as the singer's. I do not notice this until the music stops, when I find that my throat really aches from the tension."

17. Girl, 15. "One of my girls invariably copies the tone and manner of those whom she admires."

18. *Complete Impersonation.* Girl, 8. "At this age, I took the name of a schoolmate and acted in every way as she did. She had a long braid of hair which she used to toss from side to side. I greatly admired this, and braided a woollen scarf, which I fastened upon my head to imitate it. I also copied this girl's manner of holding her pencil, walking, and talking."

19. *Slang.* Girl, 17. "The most foolish imitations that

have become general in our high school, are slang expressions and talking through the nose. It is extremely difficult to leave off these habits."

20. *General.* Adult. "From childhood, I have found it almost impossible to avoid catching other people's manners, squints, scowls, tones, and shrugs. In describing the recitations of pupils, I am compelled to watch carefully lest I reproduce lisps and peculiarities of all kinds. I first noticed this when a friend told me that it was not necessary to visit my school to know all about it. I decided then that I must guard against seeming to poke fun at the pupils."

The total number of papers giving a record of cases like those described in this section, is 958. These have been summarized in natural groups. 337 cases are described as imitating "unconsciously." In most of these cases, the act was apparently taken up consciously and became habitual. The 337 cases class as follows: imitation of position of the head, 30; lips, 229; hands, 58; imitation of a frown, 4; squint, 4; drawl, 4; tone, 6; cross-eyes, 2.

Of the 621 records of "conscious" imitation, the classes are as follows: bodily attitude, 100; poise of head, 61; position of hands, 51; position of lips, 78; frown, 34; squint, 31; general expression of face, 33; cross-eyes, 42; odd movement of the eyes, 10; dialect and inflection, 57; tone and manner, 60; drawl, 26; lisp, 9; form of address, 6; slang and profanity, 23. The fourth, fifth, sixth, tenth, eleventh, and twelfth years show the largest number of cases. Attitude and gesture have little or no interest after the fifteenth year, but the poise of the head, which begins to be noted about the fourth year, and the expression of the lips, are studied with increasing interest up to adult life.

The motive seems to be similar when children make

II. Imitations of Peculiarities of Walking.

21. *Gait.* Boy, 16 months. "He takes delight in imitating the gait of his aunt."

22. *Limp.* Girl, 2. "Counterfeits her grandmother's rheumatic limp, and exclaims with well-feigned agony, 'O my hip!'"

23. *Limp.* Boy, 3. "Harry's grandfather limped and was never seen without a cane and his dog Milo. One day Harry was seen limping around and dragging a worsted dog by means of a string. 'Why do you walk like that?' asked his mother. 'This is grandpa and his dog Milo,' was the reply."

24. *Position of Feet.* Boy, 12. "Once I saw a man walking and his feet went out just as though it was quarter of three. After that, I tried to walk like him."

Cases like these are very common. Children in the kindergarten catch the limp of the teacher, if she is so unfortunate as to have one. A roomful of girls, eight years old, are reported to walk with a peculiar "switching gait" like their teacher; and several girls of twelve report that they are trying to "walk like an older friend who carries herself gracefully." So, too, on the street and at the public gathering, boys pick up the hitches and halting steps of the weak and maimed, the strut of the dude, and the swagger of the pompous.

The total number of cases of this class is 160. Of these, 70 are imitations of a limp; 90 are of some hitch, switch, swing, or swagger that seems characteristic of the gait of the person imitated.

Far more serious in their nature, and directly related to the hygiene of the schoolroom, are the records of

III. Neuroses Induced by Suggestion.

Some of the records which follow were furnished by physicians interested in the work of the schools. All are authentic. Every teacher will recall some of the forms from personal experience.

25. *Spasmodic Cough.* Children, 10–14. "One little girl in a school had a spasmodic cough. Her laughter always ended in a fit of coughing. In a short time the majority of the children in the room began to cough in the same way. They could not seem to help it."

26. Adult. "One evening at church, I heard a harsh, grating cough. Some one across the room took it up, and in a short time, half the people in the room were coughing."

27. *Speech Defect.* Children. "In a certain family, the oldest girl is tongue-tied. She cared for two younger children while they were learning to talk, and although they have no physical defect of the tongue, both talk as their sister talks."

28. *Stammering.* Boy, 5. "A boy of ten in this neighborhood, has stammered from infancy. Harry teased him by repeating his broken sentences, and soon became as bad as he."

29. Boy, 12. "He played with a boy who stammered and was in the same class at school. He imitated this boy at first, 'to see how it would sound.' Now he cannot speak in any other way, and he cannot break from the habit."

30. Boy, 4, and several other children. "When I was four years old, a boy who lived next door, stammered badly and soon had all the children in the vicinity stammering. It was only by means of great exertion that mamma kept me from being a terrible stammerer."

31. Boys, 7–10. "A boy of seven in my school used to

stammer. At the end of twelve weeks, several of the older boys stammered badly when reciting."

32. *Stuttering.* "One morning, when I was 12, a boy appeared in the reading class for the first time. He stuttered frightfully. I took it up that day, and, for fifteen years afterward, I did not speak a perfect sentence."

33. Adult. "There is a boy in this place who stutters. In trying to break him of it, his mother has contracted the habit."

34. *Hysteria.* Girls, 17–20. "The lesson for the day was not well prepared by the class. The teacher was exasperated and spoke some sharp words. At the close of the lesson, a girl had hysterics and, five minutes later, seven others were affected." [In two other institutions, under conditions almost exactly the same, larger numbers were reported.]

35. Girl, 11. "One of my school friends had hysterics in a way that we all admired. She grew rigid in all her body and my sympathy and admiration were so active that I was likewise threatened, but my father's stern voice made me limber."

36. Girls, 12–15. "In a certain school, where the girls were from twelve to fifteen years old, one girl fainted and four others fainted from pure sympathy."

37. Girls, about 12. "L—— had an attack of hysterics in school. While watching her, several other girls began to show the same symptoms. L—— was carried from the room and the teacher threw water in her face. The same treatment had to be used with several others."

38. Girls, 17–20. "In a boarding school for both sexes, although the surroundings were pleasant, hard feelings sometimes arose on the part of the girls against the teachers. A girl who was a favorite with the pupils, but was not considered such with the principal and his wife, one day had hysterics. By the end of the term, five were affected and occasionally had a mild attack of hysterics. At the end of the year, the number had increased to fifteen. When a pupil was attacked, the teacher usually dismissed the class and after a few sharp words, left the stricken one alone."

39. *Chorea.* Girl, 10. "A girl of ten had chorea. Another girl of the same age who had no nervous weakness, began to be affected. I had her placed in another room at school and she soon recovered."

40. Boy, 10. "A servant in his home had chorea. In spite of his parents, the boy imitated her and became so bad that she had to be discharged."

41. Children, 6–12. "In 1894, in the Orphan Asylum at ——, N. J., there was a little girl who had chorea. In a short time after her coming, several boys began to imitate her for

sport. The habit soon spread to her friends as well as to those who were making sport of her. A large number of children were affected. After the little girl was sent away from the asylum, the choreic movements in the others, ceased gradually, excepting in the case of one child who was sent to the Asylum for the Feeble-Minded as incurable."

42. Girls 14–19. "In a city high school, in which the department for girls, numbering 500, was independent of that for boys, in the last part of 1892 and the first of 1893, there was a peculiar spreading of nervous movements or choreic twitchings. One girl was affected with spasmodic twitching of the eyes, involving movement of the cheeks. She was a favorite and soon several of her friends showed signs of the habit. Later not only her friends but all who were much in contact with her were affected. At the end of the year, this girl went away and signs of the habit began to die out. The writer caught the habit in a mild form, but 'broke off' when she found 'how it looked.' Another girl was less fortunate. When the movements of her eyes ceased, her head began to jerk. She said she could not stop the movements because the impulse seemed to spread from one part to another.

The work in this school was not difficult and the spreading of the habit seems to be due simply to suggestion. About fifteen per cent. of the total number of pupils, or 75 in all, were affected."

43. Girl, —. "I once had a teacher who had a habit of twitching her mouth. I never could look at her without unconsciously twitching my mouth in the same way. At last I could not look at her at all during a recitation. Other girls felt just as I did, and some who said nothing, were imitating the teacher."

44. Boys, ——. "A *jumper* (so called because he would jump or speak when touched, or addressed suddenly), once went to a school that I attended. Before he had been there half a term, five or six of the boys were very bad jumpers."

45. "I know a man forty-five years old who cannot watch a person saw wood, drive oxen, or do any other kind of work for five minutes, without repeating the same words and making the same motions. He has been so from boyhood."

In answer to the syllabus, 214 records of neuroses through suggestion were received. Some of these records show that but a single individual has been affected by the example of another; but the majority of the records shows that the act of one has been taken up by several and repeated to their injury. The number of records of Spasmodic Cough is 41. Each record shows the spread of the coughing through a roomful of children at school, a church audience, or other public gathering. Of

Stammering and Stuttering, there are 71 records. In some instances, a single individual suffered from the presence of the child of defective speech; more often, many in a class or school, fell victims to the imitation. Every record counted, is that of a case in which the habit was broken with great difficulty, if it was broken at all. There are 33 records of Hysteria. The smallest number of individuals affected in any record, is 3; the largest, 15. Of Chorea and Choreic twitchings, there are 79 records. The lowest number of sufferers named in a single record is 1; the highest, 75. All the cases of hysterics, excepting three, are between the ages of 10 and 20. More than half the cases of chorea are between 7 and 12; nearly all between 7 and 17. Only a few of the records of stammering show that the habit is contracted after the fifteenth year. The spasmodic cough ranges over a much longer period, although children are rather more susceptible to it than adults.

Records of similar cases, although more complicated ones in some instances, are those of Dr. Laquer, Zeitschrift für Schulgesundheitspflege, No. 8, 1889, p. 423; Prof. Hirt, reported in Zeitschrift, No. 4, 1893, p. 225, from Berl. Klinische Wochschrift; Dr. Wichman, reported in Zeitschrift, No. 9, 1886, pp. 549–50, from Deutsch. Med. Wochenschr.; Kotelman, Zeitschrift, No. 10, 1893, p. 548; Dr. Rembold, of Stuttgart; Bernheim, Suggestive Therapeutics, pp. 324–5; Hyslop, Mental Physiology, p. 490.

IV. Imitations of Industry, Occupation, and Office.

In this class, there are many cases in many lines. Those which follow, will give some idea of the nature of all.

46. *Carpenter.* Boy, 8. "He watched the carpenters for several days; then he began to play 'carpenter.' He gave orders to imaginary men and worked as nearly like the carpenters as he could."

47. *Builder.* Boy, 9. "He visited Lowell. After coming home, he built houses, churches, railroads, stations, and stores. He also laid out streets, as nearly as he could remember, like those in Lowell, for which he named them."

48. *Farmer.* Children, 6. "All the little boys near my home built barns of shingle binders, and took pine cones for cattle and horses. The cones of the spruce and hemlock, were sheep and poultry. Grass was pulled for hay, and tall ferns were cut for trees. One of the boys built a barn 4x4x8 feet, and a house a little smaller."

49. *Farmer.* Boy, 4. "My brother used to play with sticks for cattle and was often heard shouting, 'Whay, go 'long there!' as he had heard the men who were driving the cows. He used to sell and exchange cattle with imaginary men. 'This

is a first-rate cow,' he would say, 'good milker, kind and gentle.' Of another, 'I can't rec'mend her, Mr. ——, one teat don't milk and she kicks.'"

50. *Butcher.* Boy, 6. "George often saw his father, a butcher, slaughter animals. One day he got some pieces of glass for knives, fixed a place for killing, tied frogs up by their hind legs and cut their throats with the glass."

51. *Butcher.* Boys, about 1, 5, and 7. "The older boys saw their father and his men butcher a pig. A few days later, they got a butcher knife and actually killed their little brother. When asked why they did it, they said, 'We were just killing a pig.'"

52. *Grocer.* Boy, 3. "This boy goes to different members of the family and takes their orders, then loads his wagon with toys and delivers these as groceries. When taking orders, he quotes prices regularly."

53. *Grocer.* "A few days ago, I saw several children playing store in a large yard. They had counters and a desk made of old boards. They also had an old pair of scales with which they weighed out sand, stones, and other things as groceries."

54. *Electrician.* Boy, 5. "Irvin saw men putting in a system for electric lighting. He drove sticks into the ground and stretched ropes around the porch and in the windows. His father bought him some little burners which he arranged on his lines. He used to play by the hour, climbing the posts like a regular electrician, to mend the lines."

55. *Brakeman.* Boy, 5. "On the way home from Trenton, the brakeman would enter the car to call the stations. At nearly every station, the conductor's little boy came in soon after and did the same. He also played conductor and came around calling 'tickets, please.'"

56. *Doctor.* Girl, 6. "Her father called a physician to examine her lungs. He sounded and thumped in the usual way. A few minutes after he went away, she was seen sounding her doll and placing her ear on its chest just as she had seen the doctor."

57. *Doctor.* Children, 5, and 7. "They gathered roots, grass, and weeds. These were put into water and kept there until the water was dark colored. The dark liquid was put into bottles for medicine; the weeds and grass were kept for poultices. The patients used to live in fence corners, and when the young doctors were called to attend a case, one became a horse until the patient's dwelling was reached, then turned into a doctor again."

58. *Dentist.* Girl, 5. "This child went to the dentist's with her sister. The child's doll had some teeth. After re-

turning she placed the doll in a chair and prepared to fill its teeth. She made a small hole in a piece of paper, put the paper over a tooth and fastened it with a string, just as she had seen the dentist fasten the rubber dam. She used pins for instruments, and, after a good deal of imaginary hurting, finished the work.''

59. *Minister.* ''When Percy came from church, he used to take a high stand for a pulpit, and imitate the minister's attitude, drawl, and phrases, such as 'I must close now,' 'I will end with this thought,' 'As my time is brief I will hasten to mention this last point,' and similar expressions.''

60. *Reporter and Lawyer.* Boy, 11, Girl, 10. ''They played in the attic on stormy days. Their offices were in opposite corners of the room. Between their desks a cord was stretched. Suspended from the cord, was a pasteboard box with a string attached to each end. J.'s father is a reporter. J. was impersonating him. M. was the district attorney. They said the strings were a telegraph system. The messages were placed in the box, a bell was rung at the opposite desk, and the messages were drawn in by the strings attached to the box.''

61. *A Trial.* 14 boys about 7 years old. ''After going to a trial with his father, Willie had a party. The boys played 'court.' There were two judges, a jury of four boys, another of five, opposing lawyers, and an older boy who was given the name 'Captain,' 'because,' said Willie, 'I can't remember your name, but captains are over vessels and you shall be over our trial.' When all was arranged, John was tried for killing his sister. A little later, when we heard them talking, they thought John should be hanged for the 'first hard murder.' Then Willie came and asked his mother what was 'hard on the thermometer.' She did not understand and asked what he meant. He replied, 'I know, it's the temperment.' When the verdict was rendered, John was pronounced 'guilty of murder in the first temperment.'''

62. *Executioner.* Boy, 8. ''After reading of the execution of the Chicago Anarchists, this boy was curious to know how it would feel to be hung. He got a rope, fastened it securely overhead, put the noose around his neck, and owing to an accident, was very nearly strangled.''

63. Boy, 15. ''After reading of an execution, Harry put a cat into a bag, erected a gallows, fastened a rope around the cat's neck and hanged it.''

64. *Policeman.* ''Boys in this city play 'Policeman.' Several pose as 'drunks.' A call is given at the 'station' and along comes an express wagon drawn by two boys. Two others on the seat are policemen. The 'drunks' are tumbled into

the wagon, the officers take their places and the team goes off on the jump to the station."

In all, 435 records fall into the class named in this Section. These records are divided as follows: teachers, 99; ministers, 88; storekeepers, 57; doctors, 51; post-masters, 10; lawyers, 9; music teachers, 6; farmers, 6; jockeys, 12; newsboys, 7; conductors, 7; ploughmen, 5; butchers, 4; bakers, 4; dentists, 4; expressmen, 3; cooks, 2; stock raisers, 2; Sunday School Superintendents, 3; tramps, 6; carpenters, 3; drayman, corn packer, electrician, quarryman, motorman, brick-maker, stone-mason, builder, painter, milkman, sawyer, well-digger, ice cutter, seamstress, laundress, milliner, clerk, telegrapher, stock broker, reporter, fisherman, fish-vender, street car conductor, gate tender, switchman, gardener, bill-poster, brakeman, coachman, servant, engineer, photographer, frame-maker, barber, sailor, detective, librarian, lecturer, dancing master, teacher of Del Sarte, Jew peddler, beggar, policeman, judge, captain, general, executioner, 2; city government, deacon, priest, bishop.

It will readily be seen that a large percentage of the industries and occupations are co-operative. These records would seem to indicate that the common pursuits of life attract children and are engaged in by them most largely from three to seven. The eighth, ninth, tenth and eleventh years furnish eighty per cent. of all the merchants reported. Fifty per cent. of the ministers are between three and seven; one-half the remainder are between seven and ten. The youngest doctor is three; more than half the entire number of doctors are in the sixth, seventh, eighth and ninth years. Nearly all the teachers are between five and eleven.

Perhaps no better topic can be found for a group of widely varying imitations than

V. Imitations, Illustrating the Dramatic Instinct.

These show two natural divisions: (1) Imitations for the exaltation of self through consciousness of power to perform dangerous, hazardous, thrilling, sensational or marvellous feats; (2) Imitations which please and develop the esthetic sense.

The acts of the former class are usually suggested by flaming pictures, cheap literature, the talk of braggarts, and spectacular entertainments. Some of these acts show a repetition of the characteristics of more primitive types. Such are walking bridge railings on "all-fours" in imitation of monkeys, painting the face like a clown, playing Indian and gypsy, "nail-keg" bands and tribal gatherings. Without doubt, nearly all these acts have in them more of good than of harm for the growing child, but to blight the harmful element and bring the helpful to its perfect fruition is a task that calls for careful thought.

Acts of the second class are inspired by the charms of Wonderland, the magic of myth and story, the rhythm of poetry, the deep impulses of romance, and the dignity of ceremonial. The clown and ape of Class 1 are succeeded in these acts by lords and ladies, princesses and kings. Coarse apparel is exchanged for fine; the grunt of the savage, for the polite salutation; rude musical instruments give way to the concert programme; the pirate and the vandal simply pass before a cultured audience and off the stage to receive justice at the hands of the officers of organized society. The elements of all that is ideal are in this class; rough sounds that will grow into harmony; jingles, into poetry; runes, into ritual; rubrics, into religion.

The cases which follow, give some idea of the scope of Division (1).

65. *The Circus.* Several girls, 10–12. "We had been to the circus. One day a big tree near our house, blew down. We saw in it a fine 'Jumbo' and at once organized a circus company with a clown and special attractions. The writer was the 'Fat Woman;' a very thin boy was the 'Living Skeleton;' and a boy on stilts, was to be the 'Giant.' Later the company quarrelled and the show went to pieces."

66. Children, 8–12. "Fifty children of the Orphan Asylum at P——, one day went to Barnum's circus. For days after, parts of the show were repeated every recess. The matron often found boys standing on their heads in the middle of a bed, or upon pillows scattered about on the floor. 'When I am a man I'll buy a lot of horses and see if I can ride like that;' and 'When I get big, I'm going to be in a show,' were common remarks. Some of the children resolved to be good a whole year, so that the manager of the asylum would take them to the show again."

67. Boys, 8 and 12. "I took my boys to the Colby Athletic Exhibition. Before reaching home, the younger had arranged to have his mother sacrifice one of his suits of underwear to make an athletic costume, and the next evening the boys were on the third floor of the house, with mattresses dragged from two beds, wrestling and tumbling like professional athletes."

68. Boy, 8. "After going to the Musee, he tried to swallow swords (lumps of wet cotton), eat fire, stand on his head, lift chairs with his teeth, and do many other things which he had seen at the show."

69. Boys, 8–12. "As soon as the circus posters were put up, these boys became interested and began to hold meetings in our wood-shed to form plans for a show. After the details were arranged, a tent was raised and a course of training went on secretly for a week. Then the parade came off. It was headed

by the clown, who was seated on a wagon drawn by a goat. The others followed in a style of dress suited to the occasion. The regular programme was: 1. Song by the clown; 2. Cavalcade, sommersaults, and leap-frog; 3. The clown makes the goat ma—a—a and stand on its hind legs; 4. Trapeze performance; 5. Juggling; 6. Fancy riding (the clown made an unsuccessful attempt to ride the goat); 7. Dog jumping through a hoop; 8. Music by the boys."

70. Boy, 8. "I saw a circus picture of a man jumping from a ladder 150 feet from the ground. When I got home, I climbed an apple tree and did the same."

71. Boy, 4. "About a year ago this boy went to a circus. For some time afterward he had to be watched closely to prevent him from injuring himself by the daring leaps he made."

72. *Wild West.* Boys, 12–15. "My brother and several other boys went to Buffalo Bill's Wild West show. They came home and started in for themselves. My brother would ride on horseback and try to catch the other boys with a lasso. The boys also tried to shoot with their air rifles in different positions as they had seen Col. Cody."

73. "Some Indians had been selling medicines in our town. My brother and the boys at his school began to wear feathers and play Indian. Any boy who did not wear feathers, was set upon by the Indians and captured; then if he would not wear them, he was punished."

74. Boys, 10. "These boys were much interested in Indian stories. They adopted as far as possible the dress and ways of Indians. They used to have desperate battles with imaginary foes, and often scalped their sisters' pet dolls. The idea was first suggested from the studies of Indians in the history class at school."

75. *Prize Fight.* Boys, 5–12. "One Saturday morning, after one of Sullivan's victories, a number of boys went to a spot called Wildwood for a prize fight. They charged one cent admission. The boys who did the fighting were younger than the others. They fought like young lions. One of them was named Sullivan."

76. *Gypsy.* Girls, 8–9. "After seeing a band of gypsies, these girls played that they were gypsies, and stole property and children whom they kept until the children were rescued by their mammas."

77. *Burglar.* Boy, about 14. "This boy lived in a small Maine town. After reading about the adventures of robbers, he began to make false keys and collect an outfit of burglar's tools. He entered several dwellings and stores before he was detected. He is now serving a sentence in the Maine state prison."

78. "Not long since, several small boys after reading of robberies and secret gatherings, formed a band with a fearful pledge. Although the members were very young, they carried weapons and kept the pledge. One little fellow became nervous and sick. His mother found a loaded pistol under his pillow, promised him protection, and obtained a confession. The band was speedily broken up."

79. Girls, 10. "We heard of train robbers. Some of us dressed in our mothers' clothes; some dressed as boys. It was night and our train was speeding on swiftly, when the robbers burst in and shot the passengers with toy pistols, or stabbed them with wooden swords. The robbers took the money of the passengers, which consisted of stones and paper. When the passengers came to life, they put the robbers into prison."

80. *Gambler.* Boys, about 10. "Several of my boys had been reading about gamblers. One day they left the building and I sent some one to find out what they were doing. Four sat at a table playing cards. On the table were some cigarettes and a drinking glass. Other boys were permitted to be present if they brought candy, fruit, or money to be used as stakes."

81. Boys, 6–8. "The men in town had been disposing of personal property by the 'numbered ticket plan.' A short time after, I found that the boys in my primary school were 'putting up' their pencils, pocket knives, and other articles in the same way."

82. *Striker.* Boys, 10–12. "During the Brooklyn trolley strike, I visited my sister in that city. One day I went out to find her two boys. They were at the end of the block with about a dozen companions, playing strike. They had a box with glass in the sides for a car. One of the boys would pull the car across the lot by means of a long rope. The others stood in line and threw stones at it, making the glass fly in all directions."

83. Boys, 10–12. "Last summer during the strike at Philadelphia, these boys had a Sunday School teacher who had been paying them one cent each to attend Sunday school. The next Sunday after the strike, none of the boys appeared. During the week, the teacher met one of them and asked why the boys had not been in their places. Willie's reply was: 'A cent ain't enough; we've struck; we all want two cents.'"

84. *Anarchist.* Several boys, about 12. "We heard about the attempts of anarchists to blow up a prominent business man. At that time we had a teacher who was much disliked. We saved our money until we had enough to buy several pounds of powder. We then made a man of the teacher's old clothes, put it in a small building, with the powder under it and set it off. It demolished the man, and also the building."

85. *Torch Light Procession.* "After the last presidential election, the small boys of this city had a torch light procession. It was led by boys with drums. Next came boys with brooms to symbolize the sweeping out of the other party. After these, were boys with flags, mottoes on pasteboard, and a few with real torches."

86. *Coxey's Army.* Boys, 8–14. "These boys were full of the Coxey craze. They formed an army led by a band equipped with kettles, cans, and similar articles. They marched around town under their captains, made speeches, and cooked stolen eggs. After the 'egg racket,' their parents came in, and there was no more 'Coxey's Army' in Mauricetown."

A *summary* of the records in this division, shows these results: total number of records, 603; imitations of circus, 250; Indians, 58; Wild West, 35; robbers, 50; gypsies, 12; striker, 10; dancing bear, 7; prize fight, 5; U. S. mail robber, 6; anarchist, 3; drunken men, 3; murderer, 2; hunter, 6; merry-go-round, 2; hand organ man, singer of comic songs, duelist, bull-fighter, thief, pirate, wrecker, lottery, gambler, clown, juggler, swallower of swords, magician, contortionist, equilibrist, bridge jumper, tight rope walker, cowboy, scout, detective, monkey, bareback rider, high diver, base ball game in which each player has the name of an old leaguer and plays the same position, drum corps, Coxey's army, 5; fireman, 8; drum major, 12; torch light procession, 104.

The records of the circus, Wild West, and torch light procession, as well as those of imitations of Indians, gypsies, strikers, prize fighters and anarchists represent *groups* of boys and girls. The smallest number of individuals reported in any record of a circus or torch light procession is 7; the largest number in any record, is 125.

The circus age seems to be from 6–12, although there are seventeen records for the thirteenth, fourteenth and fifteenth years. There is a deepening interest in robbery up to the age of 15. The gypsies come at five and are gone at nine. The tenth year has by far the largest number of these imitations—about 90 in all.

The following records illustrate Division (2).

89. "In my early childhood, it seems to me that my brothers and I lived in a little theatrical performance from year to year. We were 'stump orators,' the country doctor, the preacher, and sometimes, our own parents."

90. *The Theater.* "At sixteen, my sister saw her first play. On the following week, she was seized with violent fits of anger, so like those of the actress whom she had seen that they seemed to the family to have been suggested by the play."

91. *Concert.* "Sister and I went to a concert. The next

afternoon, we removed the clothing from a large wardrobe in my aunt's room for a stage, put on aunt's dresses and adorned ourselves with flowers. Then we took turns at singing from our stage. When we finished there was quite a crowd in the street opposite our window."

92. *A Play.* Girl, 13. "One night I saw a play called 'Dot, the Miner's Daughter.' Some of my friends and I at once got up an entertainment. We made six dollars, which we gave to a lame boy."

93. Girl, 10. "After hearing a play, I went home and wrote a little play which some of my friends helped me to present."

94. Boy, 12. "After reading Robinson Crusoe, he made an island in a small pond, hollowed out a cave in one side, made a boat out of a log, planted trees on the island, made a cove in which to keep his boat, and carried two pet lambs to the island to represent Crusoe's goats."

95. Girls, ——. "We read a story in which the heroine was stolen by gypsies. After that, we played that Grace and I were brother and sister; that Grace was stolen; that years after, in a strange city, I became acquainted with the captain of a company of soldiers stationed there, and found him to be my lost brother."

96. *Impersonating Royalty.* Girls, 10–14. "In our yard there was a large tree with four wide-spreading branches. We called these England, Scotland, Ireland and Wales. Smaller branches were called castles. One was Windsor; another, the Summer Castle.

We took to impersonating Queen Victoria and the Princess of Wales. Each of us tried to live the life of the one whose name she took. Our conversation was such as we fancied would befit royalty. We could not talk unless we were in the same castle. In order to communicate with foreign countries, we put in telegraph lines, put our notes on strings, and pulled them from one branch to another. From the time that we were ten, until we were too old for such sport, *we fairly lived in that tree.*"

97. *Living Stories.* Girls, 5–10. "'Grimm's Fairy Tales' was given us at Christmas. We spent the rest of the year acting out our favorite stories. I was the princess, Grace was the prince, and little Florence had to take the ugly characters."

98. *The Battle of Trenton.* "I passed a sand bank. A group of boys were playing the battle of Trenton. The roads were laid out, the forces were distributed, cannon guarded the approaches. The bed of the Delaware was hollowed out and the place of Washington's crossing was marked. The boys poured water into the channel, and sent chips over for boats."

99. *Living Stories.* Girls, 5–10. "The two older sisters

were fine ladies. The youngest, dressed in tattered garments, was a beggar and came to the doors of the rich ladies who took her in and made her a fine lady. This was suggested by stories."

100. *Unveiling a Monument.* Boys, 7. "I saw a group of boys on the street. One was completely wrapped in a flag. Another was speaking: 'All get ready now; I am about to unveil the monument.' Here he pulled off the flag, remarking, 'Gentlemen, the monument is unveiled.'"

101. *The Salvation Army.* Children, about 10. "They had been watching the Salvation Army. One night, I saw a number of them standing in the middle of the street. First they sang all the songs they had heard; then one prayed; testimonies followed; then there was another song, after which the bystanders were invited to join them at their meeting house."

102. *A Prayer Meeting.* Girls, 8, 11, and 11. "We had been to prayer meeting and I proposed that we should repeat the service. We had one to read, one to pray and the other to exhort. We did not do it irreverently."

103. *A Confirmation.* Girl, 5. "After having seen a Confirmation, H. G. put on her cousin's cassock and surplice and said that she was Bishop M. She then imitated him closely in speech and action."

104. *A Baptism.* Girl, 7. "This girl played with spools a good deal. After being baptized, she never added a spool to her family without first baptizing it and giving it a name. She had about thirty spool-children, and she could tell the name of each as soon as she saw it."

105. Girl, 8. "When I was eight, my sister and I saw a baptism. The next day we filled a large pan with water, dressed our dolls in their night clothes, and dipped them in the pan, talking to them as the minister had done in the real service."

106. Girl, 11. "I was visiting near a prison. In one corner of the court was a rectangular excavation nicely concreted. I often wondered what it was for, when playing with the warden's children.

One day I saw a baptism by immersion. I saw a use now for the excavation, and suggested to the children that we baptize each other. We went through the ceremony with great solemnity, repeating the exact words of the service. When my playmate shivered on stepping down into the imaginary waters, I gently rebuked her, telling her that she was not to think of her body."

107. Boy, 10. "At the age of ten, I saw a Methodist baptismal service. The next day I repeated the ceremony on the cows in the barn."

108. Children, 8–12. "After seeing a baptism, we used to

baptize each other in some tall grass that grew near our schoolhouse."

109. *A Wedding.* "After seeing a church wedding, sister and I made bridal veils for our dolls and married them to imaginary grooms. When my doll was married, my sister's doll was bridesmaid; when hers was married, mine was bridesmaid."

110. Children, 7. "A prominent man of our town had just been married. One of the girls told us about the service. After that, different boys and girls were married on a large flat rock near the fence. One of the larger boys was the minister and read an exact copy of the service. The bride and groom were presented with sticks, books, and leaves, and walked to the woods and back for a bridal tour."

111. George, 12; Sarah, 10; and Frank, 8. "George was the rector; Sarah and Frank were the bride and groom. The ceremony was always performed in the parlor at the home of one of the children. George would play a march while the bride and groom slowly entered the parlor. Then he would read the Episcopal service, to which the proper responses were given. A wedding feast followed, after which, the couple, attended by the rector, made a short tour."

112. *A Funeral.* Boys, about 9 or 10. "Sammy and a friend were digging a well. They had made a deep hole, when a neighbor told Sammy, that it would be better to stop digging. 'Well,' said Sammy to his friend, 'Let's bury Mr. S——,' a prominent townsman who had just died. So they buried a bottle and made a grave."

113. Children, 7–10. "I was attending a country school. One day there was a funeral in the church across the way, and the pupils were allowed to go. At noon the next day, we decided to have a funeral. We rolled up a coat for a corpse, and selected a boy ten years old to preach the sermon. The minister took his text from John XIV, 2–3; 'In my Father's house are many mansions,' etc. After the sermon, we went to the grave. There, the minister said: 'Ashes to ashes, dust unto dust,' and we returned to school for the afternoon."

There are 267 records in Division (2). The number representing groups who act their favorite stories, or historical incidents is 70; other classes are as follows: theater, 41; concert, 29; commencement, 3; church entertainment, 2; opera, 1; Salvation Army, 3; prayer meeting, 5; camp meeting, 1; devotional attitudes, 6; musical director, 2; violinist, 2; Memorial Day procession, 4; soldier, 6; band, 16; church choir, S. S. concert, choir boys, chorus singer, serenader, harpist, street musicians, minstrels, the Shepard Family, Swiss Bell Ringers, whistlers, warblers, actor, actress, dancing girl, polite man.

boor, dude, ghost, putting on airs, and among ceremonies, wedding, 19; baptismal, 12; communion, 2; and funeral, 21.

The youngest theatrical star is five. From ten to twelve, the tendency to act stories that have an element of beauty and appeal to the deeper feelings like sympathy and the appreciation of what is generous, just, and worthy, is very striking.

Books and plays from which scenes have been abstracted by the young people described in the records, are: Grimm's Stories, Red Riding Hood, Robinson Crusoe, The Octoroon, Dot, the Miner's Daughter, Old Kentucky, Punch and Judy, Uncle Tom's Cabin, Cricket on the Hearth, Swiss Family Robinson, Huckleberry Finn, Ivanhoe, Cooper's Novels, Romeo and Juliet, and Hamlet.

These characters have been lived over by children to their great delight: Columbus, George III, Mary, Queen of Scots, Queen Victoria, the Princess of Wales, the Czar of Russia, Daniel Boone, Dr. Kane, Capt. Kidd, Robinson Crusoe, Tom Sawyer, William Tell, Vanderbilt, Will Carleton, Mrs. Browning, and Mrs. Cleveland.

VI. School Fads.

The English dialectical term from which the word "fad" is derived, means "a colored ball," or "a bundle of straw." This throws some light upon a class of acts that spread among children everywhere through suggestion; but the records which follow, give a still clearer idea of the nature of School Fads, and how slight a stimulus leads to their inception.

114. *Sachet.* Children, 8–10. "One morning I put a small sachet in the front of my dress. One corner could be seen as I wore it. The next day, a little girl came with one just like mine. In two days many of the children had them."

115. *Ribbon.* Boys and Girls, 12–13. "One day last fall, when I was teaching, I wore the cuffs of my shirt waist tied with ribbons instead of using cuff buttons. The next day all the girls fastened their cuffs with ribbons. When there were no eyelets in the cuffs, they either tied or pinned the ribbons on. The fad kept spreading, the bows got larger, and the hanging ends longer, until it was quite amusing."

116. *Dressing the Hair.* "Our class sport had his hair cut in a new way. Before night, all the boys in his division had followed his example."

117. Girls, about 16. "A stylish girl one morning came to school with her hair arranged in a new way. Soon the style was adopted by the whole school. Girls who did not readily adopt it were ridiculed into it. A girl who would not take it up, was considered of a lower order than the rest."

118. *Curls.* Girls, 10–15. "At one time the girls in our

school had a great craze for curls. The straight haired ones bravely endured the discomfort of curl papers and their pain was lessened by thinking how pretty they would look on the next day."

119. *Friendship Pins.* Girls, 14–16. "In our school, the boys used to make initial pins, and pins in the form of swords, snakes and tennis racquets, for the girls, some of whom soon had a large collection. The girl who did not have at least two or three was considered extremely unpopular."

120. *Friendship Rings.* Girls, 8–12. "We obtained these by getting each friend to give us a cent until we had collected enough to pay for a ring. One girl was ambitious enough to write President Cleveland asking for a cent, but her success could not have been great, as she never bragged any about it."

121. *Ribbon.* Girls, 16–18. "A girl came from New York to our school. She wore red ribbons. We thought she must have the *stylish color* and all adopted it."

122. *Souvenir Cards.* Girls, 12–15. "We were fond of collecting souvenir cards in our school. They contained the giver's name, the date, and a bit of bright ribbon pasted on a particular corner."

123. *Mottoes.* Boys, about 10. "It is a fad with schoolboys in this vicinity to wear mottoes on their caps like, 'Look out for me;' 'Don't get me mad,' etc."

124. *Tobacco Tags.* Boys, 6–18. "I have seen the boys about here collect cigarette pictures and tobacco tags. They wear the tags in geometrical forms on their coats."

125. *Wool Book Marks.* Both sexes. In our school it was a fad to pick threads of wool from the clothing of our friends. Our object was to see who would get the most colors. We used our collections for book marks."

126. *Worsted Babies.* 150 Girls, 10–18. "One day a girl wore a worsted baby to school. In a short time, all the girls had worsted babies suspended from their dresses."

127. *Opinion Books.* Girls, 17–20. "One day at school, a girl told how she had written her opinion of a certain other girl, who found it and got very angry. The next day we made opinion books. In each, faults, and marks of beauty were written. Every girl who was invited to write, had to tell what one had the sweetest disposition, the finest eyes, and other things of a similar nature. The books were very popular."

128. *The Secret Society.* Boys, 8–12. "They organized with the name Patriotic Sons of America. They said that their purpose was to study the history of great wars, that they might be ready to fight if the United States should become involved in a war."

129. "*Industrial Order.*" Pupils, 12–14. "Soon after the

chartering of the Odd Fellows in this town, several of my pupils organized the 'Industrial Order Club.' They deserve the name for they are trying to be helpful in every way."

130. *The Cowboy Club.* Boys, 11. "This club is somewhat literary. Its leader encloses a list of those whose biographies the club has read with great interest. The names are, 'W. F. Cody,' 'Wild Bill,' 'Texas Jack,' 'White Beaver,' 'Sitting Bull,' and 'Tall Bull.'"

131. *Benefit Society.* 10 girls, 10–13. "These girls formed a band called the 'Benefit Society.' They met daily on a flat rock under an old apple tree. Each girl signed a paper promising to do everything in her power to help all members of the society. The president used to call the meeting to order. Then each member was called to the platform in turn, and all the others, as their names were called, were compelled to tell whatever had seemed to them improper in the one on the platform since the last meeting. This process was called 'cooking.'"

132. *White Clover Club.* Girls, 16. "This club was organized for mutual improvement, at the suggestion of a favorite teacher. Its emblem was the white clover, because the girls knew that this was the teacher's favorite flower."

133. *Golden Rod Society.* Girls, 10–12. "The object was to have something that not every one knew. The society was called the 'G. R. C.' Its password was 'a rod of gold.' Its emblem, a spray of golden rod. The members strove to find out everything that they could about this flower."

The School Fads have been grouped under ten headings.

1. Hair Fads. All refer to some method of arranging or wearing the hair. Among girls these are noted: hair worn in a single braid down the back, in two braids, in two braids crossed at the back, wound around the head, and tied with a ribbon at the crown, the Marguerite braid, the figure eight, low roll in the neck, the Psyche, pasted smoothly on the head, smooth and low over the ears like Mrs. Browning, parted on the side, baby bangs, and curls. Among boys, hair clipped closely, parted in the middle, and football hair.

2. Necklace Fads. The necklaces were made of: "memory buttons," beads, shells, different colored seeds, dandelion chains, different colored leaves, and mountain cranberries.

3. Rings and Bracelets. The souvenir rings were: "friendship rings" (see record 120), "Memory circlets" (made by filing out the middle of a dime), and "merry-go-round rings." The ornamental rings were made of: grass, horse-hair, rubber buttons, celluloid, shells strung on ribbon, beads, bone, colored string, and strips of gold paper.

It was a fad in some schools, to wear the ring always on the

right hand, with others, always on the left, or on a particular finger, and in one, to wear it on the thumb.

4. Friendship Pins. When the children could not raise money enough for "friendship rings," they had to be content with "friendship pins." Any kind of stick pin, satisfied the younger children. The older ones were more fastidious, and had silver hearts, brownie pins, "Trilby hearts," pins in the form of darts, initials, swords, snakes, tennis racquets, and other similar designs. While Fraternity emblems may have suggested the idea of school pins, class pins, and class rings, these are only a more esthetic form of the ring and pin fads.

5. Ribbon Fads. Some of the ways in which this class of fads finds expression are: bow on right side, bow on left side, in button hole of dress, in button hole of coat, in button hole of boot, in the hair, on the top of the head, narrow ribbon on dress, pencil, penholder, and around neck to hold key to pencil box, ribbon and bells on dress, on boot, on garter, ribbon collections, ribbon for "friendship canes," "memory hoops," and a different colored ribbon for every day, as red on Monday, blue on Tuesday, pink on Wednesday, and so on for the week. Red is the favorite color in a majority of the schools reporting. Other colors named for the ribbons are: orange, yellow, green, blue, baby blue, violet, pink, lavender, white, black, and for centennial year a combination of red, white and blue. Records like No. 121, give the reason for the adoption of a color in most cases. Sometimes it is selected to denote a secret; sometimes to identify the members of a "gang" to their fellows.

6. Crocheting. Twelve schools report making "fan edge," five make "zephyr caps," and others make lamp mats, smoking caps, worsted slippers, and embroidered bags.

7. Charms. These are worn on the watch chain by boys. Girls attach them to ribbons and wear them in various ways. In general the charms are in the form of rings, baskets, arrows, and carvings. The material for the charms includes hazel nuts, chestnuts, walnuts, the cups of acorns, horse chestnuts, and sea beans, and fifty-eight schools report using the pit of the cherry, plum and peach. These charms are made by boys for their girl friends, and the number which a girl has, serves as an index of her popularity. Record 119 affords a parallel to this.

8. Flower Fads. Sometimes the preference of a teacher, a flower myth, or some passing fancy has given a flower a favorite place. It has been studied, worn, admired, loved, and when its season has passed, it has been reproduced in paper, or cloth. These are the favorites named in the records: apple blossom, arbutus, daisy, dandelion, golden rod, hyacinth, lily of the valley, iron wood blossom, snowdrop, sunflower, sweet pea,

white clover, violet, chrysanthemum and evergreen. It is the same esthetic sense that leads to the choice of a class flower, or a flower for each individual in a class, and to the custom already established by several states and nations, of choosing state and national flowers.

9. Secret Societies. Most of these are started by the organization of some fraternity in the town where the children live; some by the zeal of an older friend for an order or club in which he is interested. Many of these children's societies have a high aim, although this cannot be said of all with equal confidence. Records 128–133 give so good an idea of all this class, that further details are not necessary.

10. Miscellaneous. Here, ninety-seven schools report seventy-one forms of fad. Among these are: making ear-rings of acorns, initials of wire, shell bands for the hat, aprons of a particular color, pattern, material, sachet bags, worsted babies, wire spectacles, four cornered hats, mystery albums, autograph albums in the form of boots, mittens, etc., opinion books, souvenir cards, ornamental book marks, wool book marks, collections of marbles, slate pencil stubs, seeds, eggs, bits of tin, spools, tobacco tags, cigarette pictures, stamps, letter heads, monograms and stolen souvenirs. Still others mentioned are: wearing veil, chameleons, waists and sweaters alike for the same grade, class initials on clothing, little flags, red bandannas, and secret emblems in chalk upon the clothing; also setting up lemonade stands and pin stores.

The fads already referred to have sprung up and become general in 536 schools. In the ten classes described there are 182 different forms of fad. The number of schools reporting in each class, and the age limits between which the different classes fall, are as follows: Hair Fads: No. schools, 51; age, 10–15; different forms, 15; Necklaces: No. schools, 32; age, 8–17; forms, 7; Rings and Bracelets: No. schools, 78; age, 6–12; forms, 13; Friendship Pins: No. schools, 10; age, 6–10; forms, 10; Ribbon Fads: No. schools, 55; age, 10–18; forms, 20; Crocheting: No. schools, 22; age, 8–16; forms, 6; Charms: No. schools, 64; age, 8–16; forms, 12; Flower Fads: No. schools, 45; age, 8–16; different flowers, 16; Secret Societies: No. schools, 42; age, 7–17; forms, 12; Miscellaneous Fads: No. schools, 97; age, 9–16; forms, 71.

VII. Miscellaneous Examples of the Effect of Suggestion.

This list includes 102 records. Some of them will suggest cases recorded in medical annals; some will seem, to the one who glances at them superficially, to be due simply to curiosity.

134. *Pure Suggestion.* "In a certain school, one of the

large girls had sore eyes and put on glasses. Within a week, eight or ten others were wearing glasses."

135. "While attending an academy, I had a room mate, who when she saw any one cut, bruised, or hurt, always felt the exact pain herself. It was just the same when we told her of an injury to another."

136. Boy, 12. "One time I was with a person who kept saying his throat was sore. My throat began to feel sore, too."

137. "A man was repairing a fence. A child stopped to look at him. In two minutes the crowd was so large that all had to be sent away."

138. Children, 8. "A class was passing a window. One looked out. Nearly every child who came afterward, looked out."

139. *Living Pictures.* Children, 7–10. "Last November about thirty children at Port Jervis, were much interested in a 'living picture' entertainment, which they gave in a barn for an admission of five pins. Several mothers decided to attend. When the curtain rang up, they were horrified to find their children coming upon the stage entirely nude."

140. *Playing Horse.* Boy, 5. "He was playing horse with a boy about his own age. The horse spoke. The driver warned him, telling him that horses never talk. The horse spoke again, received a blow, instantly became human, and the game ended in a lively fight."

141. *A Cat Fight.* Girls, 6–12. "We used to take delight in getting into opposite corners of the room and producing the vocal portion of a cat fight."

142. "A boy 18 months old gets down on the floor and laps milk from a saucer like the cat."

143. Boy, 8. "This boy was lying at full length on the floor and going through the wildest contortions. When asked what he was doing he replied, 'This is a snake.'"

Among these records, the county fair occurs 12 times, girls from four to six raise the dress when crossing the street in 21 cases, train occurs 6 times, steamboat, 5, judge of races, starter, bow-legged man, stiff-legged man, knock-kneed man, deaf man, blind man, bald-headed man, widower, Arctic explorer, tease, scold, smoker, once each. Various ills imitated are: sore eyes, headache, hoarseness, asthma, rheumatism, nervousness, broken arm, broken leg, railroad accident, shipwreck.

The animals named in the syllabi records are: the cat, dog, cow, horse, bucking mule, kangaroo, buffalo, rabbit, pig, goat, bear, wolf, seal, hawk, chicken, canary, monkey, and snake.

VIII. Suggestion as Children Use It.

Children appreciate the rights of individuality better, almost,

than their elders. They do not like to ask too great favors. Rebuff wounds them. For this reason they express their desires by hints, words of praise, skillful little inductions, that at first seem to point nowhere, and while employing these methods, they watch every change in the attitude, every varying expression of the eye, every little tremor in the voice of the one who has the power to gratify their desires, and to whom all their hints and suggestions are directed. The records which follow are typical.

144. *Indirect Association.* Boy, 7. "I was gathering flowers when this boy came into the yard, saying, 'Good morning, Miss ———; what pretty flowers you have! We haven't any at our house. Mamma likes flowers ever so much. I told her I'd get her some somewhere.'"

145. *A Suggestive Question.* Boy, 7. "One day this boy visited his grandmother. He was hungry but did not wish to ask for a lunch. At last he suggested, 'Gammie, don't it make you hungry to walk half a mile?'"

146. *Praising a Thing.* Girl, 10. "I had been using colored crayons. Clara came to my table and said, 'That chalk looks pretty on the board. I have a blackboard at home.'"

149. *A Comparison.* "Mother was cooking. A small boy came in and began to talk. After a while he remarked: 'My mother doesn't make such good cookies as you do.' After mother had given him four, he went out, but soon returned and said: 'Mrs. B——, those cookies are tarnation good.' He got the fifth."

148. *An Hypothesis.* Girl, 5. "Grandma, I'm hungry." "Will you have a glass of milk?" "No." "Some bread and butter?" "If I was a grandma and had a little girl who was hungry, I would give her a piece of cake."

149. *A Hint.* "A little girl was playing on the sofa at the house of a friend. She suddenly asked, 'What is the sofa made of?' 'Almost everything,' was the answer. 'Is there any custard pie in it?' was the next query."

150. Boy, 9. "His mother is morbidly afraid of tramps. One day he wanted her to go to a place to which his father was going, that he might be taken with them. His mother did not favor the plan, until he remarked, 'I hope forty tramps will come!'"

151. Boy, 5. "This boy was calling on a neighbor. He grew hungry. Picking up a corn cob, he said, 'When I'm hungry, I eat 'most anything.'"

152. *Disease to get Remedy.* Girl, about 3. "She saw a bottle of cough syrup on the table. She coughed sharply for a few minutes. When she saw it was without effect, she asked, 'Mamma, don't you hear baby cough? She need med'n.'"

153. "When my little cousin wishes to look at my watch,

she will ask, 'Do you suppose that little boy is chopping wood now?'"

154. Boy, 7. "I wanted a ball. I wrote my wish on a piece of paper and threw it on the floor."

155. A *Letter*. Girl, 10.

————————, Mass., Nov. 11, 1895.

MY DEAR SANTA CLAUS,—

I am going to tell you what I would like for Christmas. I would like a bank for my money, and if I had a muff it would keep my hands warm. I guess I could bat a tennis ball real high, and a nice book would be lovely. And would you be kind enough to bring me some chess men, and a box of paints, and a bag of candy?

O Santa Claus! have you a chain for my silver watch, and a scarf pin that you could hang on the Christmas tree for me? I would like to see you ever so much, but I suppose you would n't like to have me see you on Christmas night. Perhaps my forefinger would look pretty with a ring on it.

There are 713 records in this general division. The subdivisions with their respective numbers are as follows: Awakening associations indirectly, 221; calling attention to the thing desired by saying, "I wish I had," "I like," "I love," etc., 207; asking questions leading up to the desired end, 60; praising the beauty or quality of the thing desired, 51; making a negative hypothesis, 18; a positive hypothesis, 15; an unusual display of affection for the one who has the ability to give what is desired, 17; making gestures, 18; expressive looks with words secondary in place, 25; making comparisons between persons, places, or incidents, 19; some act, sign, or symbol, not to be misunderstood, 25; asking for something for some one else, 10; imitating the motions of something, 8; dreaming of a thing and telling the dream, 5; expressing a fancy, 3; writing a letter and leaving it to be discovered, 2.

IX. SUGGESTION IN THE PERSONALITY OF THE TEACHER.

It is often remarked by teachers, that the exactions of graded schools, the shortness of the school day, and the fact that a class usually remains with a teacher but a single year, make it almost impossible for teachers to have any influence with their pupils outside of formal teaching. Teachers must realize their difficulties, but it shuts the door against hope, to magnify them. Far more accordant with professional spirit are the words of Prof. Dawson, lately of the University of Michigan, who says, "If the teacher have a mind and heart large enough, his life becomes a tremendous suggestion every hour that he is in contact with a pupil."

Prof. Dawson's words agree perfectly with the testimony of pupils in their answers to the syllabus. They report copying

the teacher in the following particulars: thick lips, protruding under lip, tightly drawn lips, gentleness of voice, talking through set teeth, pronunciation, phrases, accent, inflection, manner of scolding, frown, squint, cross-eyes, twitching of the eyes, nervous twitching of the mouth, smiles, laughter, poise of head, professional air, peevish ways, facial expression, manner of wiping nose, manner of raising brows, manner of sitting in a chair, automatisms, gestures, tastes, desires, ideals, and aspirations.

But there is another side. 244 students say that the attitude of the teacher toward his class and toward the subject taught, has made them enjoy or hate it. The words of these pupils are preserved in the records which follow.

156. *Grammar.* "Four years ago, I disliked grammar. A few months later, I took it with one who was much interested in it and my favorite teacher. After one quarter with her, grammar was my favorite study."

157. "I have always attributed my dislike of grammar to the indifference of the teacher with whom I first tried to study it."

158. Girl, 12. "To me grammar was the most senseless of subjects. A new teacher came who thought it the nicest study she ever had. Before a month she made me love her and the grammar too, by her great interest."

159. Young Man. "When I first began grammar, I liked it. My second teacher disliked the subject and did not mind saying so. I therefore got a strong dislike for the subject, which has continued up to the present time."

160. Young Lady. "I have always hated grammar because I took it first with a teacher who had no interest in it."

161. Young Lady. "I took grammar in the town school. The text-book was poor and the teacher inefficient. At the end of the term, I hated grammar and disliked the teacher."

162. *History.* Boy, 12. "Last year, Willie did not like history. This year he has a teacher who illustrates every point, and he is so interested that he reads all the books of history that he is able."

163. Boy, 14. "Howard had disliked history. Last spring the teacher was fond of history and made it *seem very real* to Howard. At the end of the term he had the highest rank in the class."

164. "I always liked history, until this year, when I came into contact with a teacher who was not in sympathy with me."

165. *Geography.* Girl, 10. "I had a strong dislike for geography. My new teacher was fond of it and *had something to show us from every country studied.* I soon became interested, especially in the *stories* she told us of each country."

166. Girl, 12. "I enjoyed geography until our teacher

made us go out and make capes, rivers, and islands in the sand. I dislike geography strongly."

167. *Algebra.* Young Lady. "I was fond of algebra. My teacher disliked it. He told us that it was of no use except to teach to some one else. The problems got difficult. I thought it did not amount to much and dropped it."

168. Young Lady. "When we first began the study of algebra, we asked our teacher what good it would do us. She replied, 'I do not think it will do you any good, but it is in the course and I have to teach it.' I could not bear algebra while she taught me."

169. Boy, 14. "I know a boy who studied algebra at fourteen. I am sure he had the ability to make a success of it, but the teacher showed no interest in it and the boy gave it up."

170. *Geometry.* "My teacher showed no fondness for geometry; I did not like it, and grew to despise it."

171. "A class of twelve took geometry with a lady who had no fitness for the work. Their next teacher put aside the method of committing demonstrations, constructed new figures, and taught the application of principles. The class became enthusiastic."

172. *Arithmetic.* Young Man. "I was made to enjoy arithmetic through a teacher's interest after several teachers had failed to make it real to me."

173. Young Lady. "In my school were some boys who disliked arithmetic. I disliked it in my early studies, but in trying to teach it, I became interested, and seeing my interest, the boys came to like it."

174. *Greek.* "Sometimes when Greek went hard and I was about discouraged, it brought interest back to have the teacher tell about the flora and fauna of the country of which we were studying, or tell us stories of the people and their ways."

175. *German.* "I never disliked a study until I came to German. My teacher was book-bound, had neither enthusiasm nor originality, and did not know what to require of us. I studied it for a time, found it hard, tried to give it up, was not allowed to, and it became a grind. I have studied Latin and learned to speak Italian by myself since leaving school, but I have never looked at German."

176. *Botany.* Class, 13–16. "We took botany as an extra study for the pleasure we hoped it would give. The teacher seemed to think it a science of words and never thought of studying nature. The work was learned by rote, and there was no interest in it. The teacher blamed the pupils."

177. *Gymnastics.* "A friend of mine teaches gymnastics.

Her class grudged the time they gave at first. She was awkward, and constantly violated the principles of the masters whom she wished to follow, but her interest was so great, that her class became enthusiastic. Its members have improved in health and bearing."

Of the 244 cases in which, according to these records, the attitude of the teacher has meant so much to the pupil, the subjects of dislike, or enjoyment, and the number of times each is mentioned are: grammar, 42; arithmetic, 33; geography, 32; history, 28; algebra, 22; geometry, 19; physiology, 13; classics, 13; physics, 10; book-keeping, 6; reading, 5; astronomy, chemistry, psychology, music, 2 each; botany, geology, zoölogy, drawing, etiquette, gymnastics, civil government, and moral philosophy, one each.

Among the reasons for dislike, lack of interest in the subject on the part of the teacher is named 72 times; poor methods, 15; personal dislike for pupil, 9; lack of enthusiasm, 4; incompetency, 3; compulsion, 1; sarcasm, 1. The degree-terms showing the feelings of the pupil are: "I did not enjoy the subject;" "I took no pleasure in it;" "I disliked the study;" "I was disgusted with it;" "I have never been able to conquer my dislike for it" (9 times); "I fairly hate the name of it."

The opposite side of the picture is more pleasing. "I am growing interested in the study;" "I have come to enjoy it;" "It is the best study I have," are, as before, the words of the pupils, and they attribute it to the teacher's interest in the subject, 104 times; his enthusiasm, 11; his interest in the pupil, 5; and to that class of systematic suggestions which constitute individual teaching, 19 times.

There is a class of records that go one step further. They tell the story of changes in character and purpose in boys and girls through careful suggestion on the part of some teacher. There are 101 of these records and they are full of interest.

178. "A boy had been vicious. He was expelled from school. A new teacher came. He showed the boy the value of time, the need of a good equipment in the competitions of men, the transitory nature of opportunity, and the need of using each day wisely. It was all done indirectly. There was no preaching. The boy went to work. The hints were kept up. The boy became a satisfactory student."

179. Boy, 12. "Every one seemed to think I was a wild boy. Two Sunday school teachers determined to believe that I was not wholly bad. I saw what they thought and made up my mind not to disappoint them."

180. Boy, 15. "Up to this age he was idle and shiftless. He played truant and spent his time in the woods or fishing. At last he left school altogether. A lady went to his town to

teach. She heard of him and looked him up. She invited him to return to school. He thought it would be useless. At last he went. By degrees he was interested in his studies. He is now a strong teacher."

181. Boy, 13. "Bert was a liar, and the teachers put no confidence in him. A new teacher came. She trusted the boy and showed that she did. He was a better boy."

182. Boy, 13. "He was idle and disturbing in school. His teacher found that he was interested in birds and studied birds with him. At the end of the term he was as helpful as any of the pupils."

183. Boy, 15. "He was not studious and had been called bad. I set him at work for me. He soon voluntarily sought after opportunities to be helpful."

184. "Albert was always tormenting his teacher and his mates. A new teacher came and one day told me that she would make him the best boy in school. I said, 'He will never be any better,' and she looked at me with displeasure. She began by telling him that she wished to make him a special helper as soon as he could get over his *childish ways*. She told him also that it was a shame for a bright boy to be always at the foot of his class. He began to think, and was soon good and studious."

185. Boy, 14. "Every one thought he would go to ruin, but he was completely changed by the careful suggestions of a teacher. I have heard him say many times, that Miss C——, by her kindness and confidence, saved him from a worthless life."

186. Girl, —. "My friend's sister disliked school so much, that her father often had to carry her to school by main force. This year she has a new teacher and her parents find it almost as difficult to keep her at home."

187. Girl, 11. "None of her teachers could get along with her. Miss B—— came, not to punish the child but to tell her of the *good things which she was capable of doing*. The year spent with this teacher made a great change in the girl."

188. Boy, 12. "He had been regarded but little better than an *idiot* in a school which he attended for four years. One day a teacher heard him make a striking remark, worked with him individually afterward, encouraged him, and now he is regarded as an unusually bright young man."

189. Girl, 16. "Miss C——, who is in the high school, says: 'Mr. P—— treats me as though I were a lady and I wish to be what he seems to think I am, but Mr. H—— acts as though he expected me to be rude in his room, and I act my worst there.'"

190. Boy, 14–16. "James was a bad pupil. Nothing was too mean for him to do. He had been punished, sent home,

and reproved many times. A new teacher took him *fishing, gunning, and made a companion* of him. The change in the boy seemed a miracle to the people in town. He never returned to his old ways, and is an honorable and respected young man."

191. Boy, 9. "He was in papa's Sunday school class and very mischievous. Papa ignored him at first. *It didn't work.* Then he kept the boy more fully employed, invited the boys to our home and gave them freedom and a good time. These things changed the boy and he just loves papa."

192. Girl, —. "In our school there was a girl whose only ambition was to make trouble. When a teacher reproved her, she would fly into a passion. One day she struck the girl who sat behind her full in the face. The teacher simply told her to remain after school. This is the dialogue that followed: 'Jane, what made you strike Susie to-day?' 'I wanted to.' 'Do you not know that it is wrong to do such things?' 'I don't care if it is!' After a while Jane began to cry, saying she was sorry for her act. The next morning she swept into school haughtily as though angry at having yielded. Her teacher still followed the method. Before the term ended, the girl was attending school regularly and doing fairly in her work. Before the second term closed, she was studious and amiable."

193. "Several cases are now in process of transformation in our school. One boy is truthful. It helps him to have that trait recognized. Another has his knowledge of plants and animals turned to account. He is learning to think and to study.

"One was completely changed by a frank apology from me when I was in error. I explained my error and asked his pardon. He stared at me stupidly for a moment. He caught the idea. His face softened. His eyes filled with tears."

In six of the 101 cases of this class, teachers have found it necessary to teach the child the meaning of authority through physical force. In all the rest, the change has been effected by little hints that made the pupils think great thoughts. As one reads the records carefully, and asks himself what the elements are which have combined for such results, he catches a vision of teachers broad-minded, self-controlled, knowing young life, filled with faith in youth's possibilities for good, ready in sympathy, and quick to select the right thing to do on each occasion; teachers who make the *pupil reveal to himself* that the best is the only thing desirable, lead him to think that he can attain it, and assist him to make his thought life.

C. SOME INFERENCES AND APPLICATIONS.

The new material for the psychology of illusions in Section

A, is incidental. The aim of the study as a whole has been to present data bearing on the suggestibility of normal children. A careful study of the records in A and B, seems to indicate that in healthy children, suggestibility is

1. A universal condition;
2. High in degree;
3. Largely within the control of any one who knows the working of the child mind. [A.]

No thoughtful educator can fail to make from the same records, a multitude of inferences related to every department of instruction. Among these inferences, some of the more important are:

1. The necessity of removing from the public schools, stutterers, emotional prodigals, and nervous defectives. [B, III.]
2. The need of care that the teaching force is large enough to prevent teachers from breaking down because of overwork. [Record 43.]
3. The prominence of the motor element in learning and the importance of calling it into play in teaching. [B, I, II, IV and V.]
4. Ground for urging a fuller and higher use of the dramatic instinct in the classroom. [B, V, especially in (2), records, 94, 96, 97, 98, and 99.]

If it should seem at first that giving play to the impulse for dramatic action is likely to make pupils stagy and artificial, it will be remembered that the danger lies in too little freedom for dramatic expression. The amateur only is stagy; the actor who knows the stage, reflects from the footlights nothing but perfect human naturalness.

Of course it is necessary to guard against the dangerous element in plays of the circus group; this is easily done by learning the actual source of the danger and diverting the attention to something safe that will cause the same flow of spirits and awaken a sense of power and superiority. One of the best ways for securing this result would be to induce boys and girls to invent new games calling for suppleness, strength, skill and competition, to supplement those now in use and the courses in manual and industrial training.

5. A possible use of the social instinct as it crops out in School Fads [B, VI] to awaken interest in studies like history, literature, and science.
6. The danger in leaving children too much alone, and the necessity of closer companionship with children on the part of parents and teachers. [B, records 50, 51, 62, 70, 71, 75, 77, 78, 80, 81, 84, 86, and 131.]
7. In Suggestion as Children Use It [B, VIII], a hint at the natural method of child discipline.

8. The strong influence of the attitude of the teacher upon the tastes and ideals of the pupil. [B, IX.]

9. That although a bright teacher may interest pupils in a study, large sympathies, personal interest in the pupil, and ability to appreciate the good in him, are necessary to awaken purpose and develop strong character. [B, IX.]

In conclusion, a word about the relation of suggestion to other methods of work cannot be amiss. It is a method which requires a better knowledge of childhood, a clearer perception of the nature and relation of things, and better judgment than any other. It does not despise drill or formal work. It realizes that some things must be perfectly mechanized, but it selects these with the greatest care, knowing that only the most fundamental blocks in the building of yesterday's wisdom, can meet the demands of to-day, or survive until to-morrow. It does not despise the needs of the individual, for, while it believes in the co-operative work of class drill, it believes just as strongly that much of the time now spent with classes on useless details might be used more profitably in giving hints suited to the needs of each pupil, and calculated to arouse in him the deepest and most thoughtful interest in his work.

One very important thing for the schools to teach is the art of independent thinking. History is replete with records of delusions, devil scares, crazes, and stampedes, and one who reads these records and sees their parallel in a thousand phenomena of every day life, cannot help wishing for some process in education that will prepare men to see *all* possible aspects of a thing, enable them to play a sort of mental solitaire until these aspects are classified, and make them self-reliant enough to trust their own judgment after it is formed. Suggestion aims to secure just this kind of strength, balance, and independence. It tries to throw the pupil on his own resources at every point. It never loses sight of the charm of mystery. It deepens the learner's interest by leaving to him the joy of discovery. It tries to make the pupil see himself just as he is. It cannot become flattery when used by an *honest* teacher. It tries to keep close to Nature. It is silent. It is patient. It can wait for results. It helps the teacher to make himself unnecessary to the pupil. It makes the pupil master of himself. L'art de suggérer est l'un des plus délicats et des plus utiles à connaître. S'il est difficile, en effet, sans lui, de communiquer la science, il est plus difficile encore de faire aimer le bien et de former des hommes.[1]

[1] Thomas, La Suggestion.

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A STUDY IN YOUTHFUL DEGENERACY.

By GEORGE E. DAWSON, Fellow in Psychology, Clark University.

CHAPTER I.

INTRODUCTORY.

Prof. E. Ray Lankester, speaking for biology, says: "It is clearly enough possible for a set of forces such as we sum up under the head of 'natural selection,' to so act on the structure of an organism as to produce one of three results, namely these: to keep it *in statu quo;* to increase the complexity of its structure; or lastly, to diminish the complexity of its structure. We have as possibilities either *Balance*, or *Elaboration*, or *Degeneration*."[1] Elaboration of structure is synonymous with evolution. In the learned words of Herbert Spencer, it is "an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite incoherent homogeneity to a definite coherent heterogeneity; and during which the retained motion undergoes a parallel transformation."[2] In popular language, it means growth, that is, the sum total of phenomena appearing in the life-history of a plant, animal, or man before disease or old age supervenes.

"Balance" means an arrest in growth or development. When this occurs, elaboration of structure ceases in some part or parts of the organism. Certain forms of arrested development, as when an organism stops growing at a stage corresponding to the structure of some lower member of the same group, are called reversion. Darwin speaks of this class of phenomena as follows: "Various monstrosities come under this head; and some, as a cleft-palate, are known to be occasionally inherited. It will suffice for our purpose to refer to the arrested brain development of microcephalous idiots. . . . . Their skulls are smaller, and the convolutions of the brain are less complex than in normal men. The frontal sinus, or the projection over the eyebrows, is largely developed, and the jaws are prognathous to an '*effrayant*' degree; so that these idiots somewhat resemble the lower types of mankind. Their intelligence and most of their mental faculties are extremely feeble. They cannot acquire the power of speech, and are wholly incapable of prolonged attention, but are much given to imitation. They are strong

[1] Degeneration: p. 59.
[2] *First Principles:* Chap. XVII.

and remarkably active, continually gambolling and jumping about, and making grimaces. They often ascend stairs on all-fours, and are curiously fond of climbing up furniture or trees. . . . . The simple brain of a microcephalous idiot, in as far as it resembles that of an ape, may in this sense be said to offer a case of reversion. Certain structures, regularly occurring in the lower members of the group to which man belongs, occasionally make their appearance in him, though not found in the normal human embryo; or, if normally present in the human embryo, they become abnormally developed, although in a manner which is normal, in the lower members of the group."[1]

"Degeneration" is defined by Prof. Lankester as "a gradual change of the structure in which the organism becomes adapted to less varied and less complex conditions of life."[2] Dr. Morel, applying the term more specifically to the human species, defines degeneration as "a morbid deviation from an original type. This deviation, however slight one may suppose it to have been at its origin, nevertheless involves transmissible elements of such a nature that the individual who bears within himself the germ becomes more and more incapable of fulfilling his function among men; and the intellectual progress which has been arrested in him, becomes yet more of a menace in his descendants."[3] Among the lower animals, there are well-known examples of degeneration, such as barnacles, mites and certain species of worms. These animals have retrograded in the scale of life because of one or the other of the following conditions: (1) too great ease in maintaining an existence; (2) vegetative nutrition; and (3) excessive reduction in size. Parasites illustrate the first condition. By fastening themselves upon other animals, as in the case of the mite, they cease to make use of the organs employed in an independent existence, and these consequently become atrophied and disappear. Barnacles also illustrate the same condition. Says Prof. Lankester: "The egg of the barnacle gives rise to an actively swimming nauplius, the history of which is very astonishing. After swimming about for a time, the barnacle's nauplius fixes its head against a piece of wood and takes to a perfectly fixed, immobile state of life. Its organs of touch and of sight atrophy, its legs lose their locomotor functions, and are simply used for bringing floating particles to the orifice of the stomach."[4] The second

[1] *Descent of Man:* Pt. I, Chap. 2.
[2] *Op. Cit.:* p. 32.
[3] *Traité des Dégénérescences Physiques, intellectuelles, et morales de l'Espèce humaine et des Causes qui produisent ces Variétés maladives:* p. 5.
[4] *Op. Cit.:* p. 37.

condition of degeneration is illustrated in certain small, flat worms called *convoluta*. These worms have ceased to hunt their food after the manner of allied species, and have acquired the power of appropriating carbonic acid gas like a plant. Instead of crawling about, all they have to do is to bask in the sunshine, while the green chlorophyl-substance of their bodies enables them to feed upon carbonic acid gas and convert it into starch as plants do. The third condition of degeneration is illustrated in the little animal known as *appendicularia*. "This," says Prof. Lankester, "is the only representative of the ascidian tadpole, still tadpole-like in form and structure, but curiously degenerate and simplified in its internal organs."[1] The same thing is shown in the rotifers, or wheel-animalcules, in crustacean water-fleas, etc.,—minute animals whose structure has been profoundly modified in the direction of simplicity, some of the most important organs of their higher kindred having entirely disappeared in them.

It is antecedently probable that the same conditions and the same forms of degeneration growing out of them, exist among men. Numerous facts in philology, anthropology and history tend to establish such a conclusion. It is well-known that languages degenerate. One need but contrast the Greek of the Attic period with that of the period of Decadence to find an illustration of this. And what is true of the language is equally true of the thought which it is the office of language to reveal. In this, the decline between the classical and Alexandrian periods is no less marked than is the degeneration in language from Aeschylus to Callimachus. Other institutions of civilization have shared the fortunes of language and literature. It is highly probable that whole nations have retrograded in the scale of life. Certain savage peoples like the Bushmen and Australians are believed by some ethnologists to represent decadent stocks. Wars, famines, the encroachments of superior races, as well as inherent vices, have operated, and are still operating, to destroy entire tribes and races. The gradual extinction of the American Indians and many of the South Sea Islanders illustrates a process of degeneration that is going on in our own time. The crowding of the Indians of the Western United States into more inhospitable regions by the aggressive whites, to say nothing of the drunkenness and syphilis they have contracted from their civilized neighbors, has long since doomed to extinction this unfortunate people. So competent an authority as Herbert Spencer says, in speaking of the lower types of men: "Probably most of them had ancestors in higher states. . . . . While the current degradation theory

[1] *Op. Cit.*: p. 52.

is untenable, the theory of progression in its ordinary form is untenable also. If, on the one hand, the notion that savagery is caused by a lapse from civilization, is irreconcilable with the evidence; there is, on the other hand, inadequate warrant for the notion that the lowest savagery has never been any higher than it is now. It is possible, and, I believe, probable, that retrogression has been as frequent as progression."[1]

If, therefore, arrested growth and degeneration be established biological facts, and if philology, anthropology and history afford evidence that the same laws are operative among men when considered as nations and types, may we not expect identical phenomena in individuals, families and communities? May it not be that, just as the mite, which leads a parasitic existence, has degenerated from a higher and more complex form of life, so has the parasite pauper or criminal degenerated from a higher and more complex form? May not men vegetate like the *convoluta* and derive their sustenance from sources that their more active fellows would disdain; or may they not become dwarfed physically and psychically like the *rotifers* or *crustacean water-fleas?* There is an increasingly large number of students who believe that an affirmative answer may be given to all of these questions. Many criminologists and alienists are now working upon the theory that the individual human organism may not only be arrested in its development or degenerate, through disease or vice, but also that this imperfect development or degeneration may be perpetuated in the offspring. What is called the insane neurosis would seem to be an established fact. Insanity and idiocy run in families, just as do consumption and scrofula. According to Strahan, the following mental diseases are liable to be transmitted from parent to child: mania, suicidal mania, dipsomania, melancholia, monomania, and imbecility. The same authority says: "Of 901 cases of mental disease, the proportion of hereditary cases in the different forms of insanity were the following: melancholia, 57.7%; dipsomania, 63.4%; mania, 51%; monomania, 49%; moral insanity, 50%; general paralysis, 47.6%; and idiocy and imbecility, 36%."[2]

Whether or not there is such a thing as a criminal neurosis has not yet been certainly proved. There are, however, considerations which make such a neurosis antecedently probable. Those forms of crime which ally themselves with insanity or imbecility may with reason be attributed directly to organic predisposition; while all of the graver forms of crime undoubtedly spring directly or indirectly from constitutional peculiarities that are transmissible. The statistical study of criminal hered-

[1] *Principles of Sociology:* Vol. I, p. 93.
[2] *Transmission of Mental Diseases.*

ity also tends to establish a criminal neurosis. Mr. R. L. Dugdale's study of the Juke family shows that of the progeny of five sisters, traced through five generations and aggregating 540 individuals, the following were defective or delinquent: 23.5% of the total number were bastard children; 52.4% of the women were prostitutes; 20.2% received help as paupers; 56.47% were diseased or deformed in some way (blind, deaf, insane, epileptic, syphilitic, etc.); 45% were intemperate; 56% committed crimes against property; and 20% committed crimes against the person.[1] Dr. Elisha Harris has made a similar study of the descendants of a criminal woman. Out of a total of 623, 200 committed crimes for which they were prosecuted, and among the others there were numerous idiots, drunkards, paupers, and prostitutes. In one generation, 20 children were born, of whom 17 lived to maturity. Of these 17, 9 served terms aggregating 50 years in state-prison, for high crimes, and all the rest were inmates of jails and almshouses.[2] Up to 1883, of all the girls admitted to the Michigan Industrial Home for Girls, one-seventh had insanity in their parentage; one-third had criminality in their parentage; and two-thirds had intemperance in their parentage.[3]

To the student of the defective and criminal classes, the theory of degeneration is at least profoundly interesting and suggestive. It proposes to bring crime, insanity, idiocy and pauperism within the domain of law. These things cease to be accidents in nature or the results of satanic interference. They happen, as virtue, health, intelligence and prosperity happen, because some antecedent conditions have produced them. Would we know their proximate cause, we must look at the devitalized constitutions of men and women; at their diseased nervous systems and unstable brains; at their enfeebled intelligence, their blunted sensibilities, their impotent wills. Would we know a more remote cause, we must look at the gratification of appetites and passions that ought to have been controlled, or untoward circumstances that were beyond control, or a long process of ancestral decadence whose history may involve the mistakes and sins of many.

There is both despair and hope in such a theory. There is despair, because it reveals the true significance of the criminal and defective classes in society. They are seen to flourish as families and stocks, if not, indeed, as nationalities. Throughout these groups, physical and mental degeneration has spread like an infectious disease. They propagate their kind, and increase in accordance with laws as definite as those which operate

[1] *The Jukes.*
[2] *Margaret the Mother of Criminals.*
[3] Miss E. A. Hall's *Reformation of Criminal Girls: Report of Conference of Charities and Corrections for 1883.*

among normal men and women. To a great extent, they create their own environments, and thus establish veritable plague-centers from which moral and mental disease spreads in every direction. In spite of the tendency among the most decadent elements to become sterile, the vigor of those who are not so far advanced on the road to extinction, combined with numerous influences at work in civilization, serves to insure a rate of increase which many believe exceeds that of normal society. How long civilization can stand the strain of such a burden is a question that may be well asked with much solicitude.

But there is hope in such a theory. If crime, insanity, idiocy and pauperism are brought within the domain of law, and are no longer accidents in nature or the results of satanic interference, they may be studied like any other phenomena. This is certainly a field in which scholarship might work with profit to itself and the world. It is the privilege of civilization to save itself, if it can; and it is the duty of those who stand on the watch-towers of civilization to be vigilant. In these days when the philosophy of evolution is rapidly becoming the catechism of scholarship, it might be well to emphasize that aspect of evolution which takes into account the fact that all things do not *evolve*. In the words of Prof. Lankester, "It is well to remember that we are subject to the general laws of evolution, and are as likely to degenerate as to progress."[1] It would seem that this sinister tendency which has so long troubled the conscience of the world might at last very seriously engage the attention of the intellect. It ought to be as possible to discover the origin of the tramp, who takes his nourishment direct from the sunshine of charity, as to discover the origin of the *convoluta*, which takes its nourishment direct from the sunshine of heaven. The parasite criminal that feeds upon the body of society ought to be as legitimate and promising a subject of study as the parasite spider that feeds upon the body of a man. Scholarship may redeem itself, and help to redeem society, from the intellectual torpor that everywhere exists regarding the anti-social elements of civilization. When, and only when, these problems that grow out of criminal instinct, defective intelligence and improvidence shall have been taken up with the wisdom of science and the conscience of humanitarian zeal, society will be enabled to realize for itself a healthy and normal evolution.

In such a faith the present study has been undertaken. It has seemed to the writer that if degeneration sustains any causal relation to vice and crime, a careful study of typical delinquents ought to reveal this relation. Such a study, to be conclusive, would have to be, first of all, individual, and, besides, would

[1] *Op. Cit.*: p. 48.

have to exhaust every resource for obtaining information about the physical and mental qualities of the person studied, as well as about all hereditary and environmental influences. Without pretending to any such conclusive study, the writer has attempted to apply this idea, so far as practicable, in the examination of 60 juvenile delinquents. Most of these were included in two groups of reform school children, which he was enabled to study through the courtesy and active co-operation of the authorities of the Lyman School for Boys, at Westboro, Mass., and those of the State Industrial School for Girls, located at Lancaster. The two groups comprised, respectively, 26 boys, with an average age of 15 years, and 26 girls, with an average age of 16 years. They were selected by the authorities of the schools as typical specimens of the following classes of offenders: (1) Thieves, (2) Incendiaries, (3) Assaulters, (4) Sexual Offenders, and (5) General Incorrigibles.

Seven classes of facts were sought, as follows: (1) Vitality, including height; weight; chest-girth, during both inspiration and expiration; strength of grip in both hands; reaction to pain in both hands; and general condition of health. (2) Head and face measurements, including horizontal circumference of the former; antero-posterior, ear, and parietal diameters; longitudinal and transverse curves; and length and breadth of face. (3) Physical anomalies, including deformities in head; asymmetries in face and ears; unusually large jaws and ears; defective palates; asymmetrical arms; and all other deviations from the normal, such as web-feet, pigeon-breast, etc. (4) Sensory reactions, including those of sight, hearing and touch. (5) Mental reactions, including those of memory, attention and association. (6) Parentage, including nationality; occupation; religion; and general character,—also state of health wherever possible. And (7) environments, including home and neighborhood surroundings; educational advantages; and associations. Normal standards by which to estimate these facts were secured partly from similar groups of Worcester public school children, examined by the writer, and partly from records of work done by others. The methods employed will appear somewhat in detail under the several heads. While it is not claimed that these are in any sense exhaustive, it is believed that they are in the right direction. They were the best the writer could devise wherewith to meet the variety of circumstances under which the investigations were made.

CHAPTER II.

MEASUREMENTS AND TESTS.

§ 1.

Vitality.

(See Table I.)

1. The general condition of health of the children studied, was determined partly from the records of the institutions and partly from the testimony of the officials and the children themselves. Their heights were taken without shoes ; and their weights, in ordinary indoor dress. In the case of the boys, the chest-measurements were taken without clothing, and in the case of the girls an allowance of 6 centimeters was made for the garments worn. One measurement was recorded at the moment of fullest expiration and another at the moment of fullest inspiration, the average of the two being regarded as the mean girth of chest. The capacity of the boys' lungs was also determined by means of a speirometer, but in the case of the girls it was not convenient to make this test. The strength of each hand was tested by means of a dynamometer, and the average record was taken as the mean strength of grip. A pressure-algometer was employed in testing the resistance to pain. This was applied to the palm of each hand, and the mean record obtained as before.

2. *General Health.* It should be stated, first of all, that the boys and girls examined, had been inmates of the reformatories for periods ranging from a few days to several years. Most of them had been there for some months. They were well-fed and well-cared-for. Both institutions seem to be models, so far as diet, hygiene, and general appointments are concerned. In the Lyman School, the boys have instruction of an excellent character in physical culture, and the reports of the instructor show that there is a steady improvement in their physical condition. Indeed there is little doubt that these reformatories, homelike in their plan and humanely adminstered as they are, afford better homes for their inmates than most of them have ever been accustomed to. And yet even such superior conditions have not removed, and cannot remove, the traces of improperly fed, poorly nourished, or diseased constitutions that the children bring with them.

Of the 26 boys, 4 were in poor health ; 10 in medium health ; and 12, in good health. Thus, less than one-half may be said to have been perfectly sound, so far as could be determined. Many of the boys had a pinched, stunted appearance. Several were troubled with chronic indigestion, and one had been afflicted for years with chronic diarrhea. One was epileptic, and two others showed symptoms of the same malady. There

were frequent indications of a rickety childhood, and one boy still showed symptoms of chorea. Of the 26 girls, 4 were in poor health; 3, in medium health; and 19, in good health. The girls were thus, on the whole, healthier than the boys,—a superiority that they will be found to maintain throughout. Nevertheless, there were frequent signs of mal-nutrition and disease. One was epileptic; one, choreic; and two, hysterical. One also had amenorrhea.

Compared with the normal standard, the general health of these delinquent children was poor. Nothing impressed the writer more than the contrast between their appearance and that of similar groups of Worcester school children. The number of the inmates of these two reformatories that would attract attention anywhere on account of their stunted or diseased appearance was conspicuously large. Such general impressions are confirmed by a comparison of the writer's results with normal standards. From Dr. Francis Warner's investigations[1] among 50,000 London children, it appears that but $1\frac{2}{5}\%$ of the boys and 2% of the girls were suffering from low nutrition, while but 3% of the boys and $2\frac{3}{10}\%$ of the girls showed symptoms of nervous diseases. Combining these two items, $4\frac{2}{5}\%$ of the London boys and $4\frac{3}{10}\%$ of the London girls may be said to have been in poor health, as against 16% of unhealthy children among those examined by the writer.

3. *Height.* The average height of the boys studied, was inferior by 9.9 cms to the average of Boston boys of the same age; while that of the girls was inferior to the normal standard by 6.1 cms. 92% of the boys and 86% of the girls fell below the normal standard by from 1 to 28 cms, while but 8% of the boys and 14% of the girls rose above the normal standard by from 1 to 9 cms. In the case of the boys, these results differ from Riccardi's,[2] who found that between the ages of 13 and 16, criminal and normal boys do not differ in stature. In the case of the girls, however, several criminologists have obtained similar results. Marro found that the average height of normal women is superior to that of delinquents; and the investigations of Madame Tarnowsky show that in Russia, prostitutes and thieves are shorter in stature than normal women.[3]

4. *Weight.* The average weight of the boys examined, was inferior by 5.93 kgs to the normal average, while that of the girls was superior by .55 kg to the normal average. 84% of the boys and 37% of the girls were inferior to the normal

[1] "*Deviations from the Normal Development among 50,000 Children.*"

[2] Lombroso: *L'Homme Criminel*, 2nd French Edition, p. 205.

[3] Lombroso: *Female Offender* (Morrison's Translation), pp. 49 and 53.

TABLE I.

Showing the vitality of 52 juvenile delinquents, compared with normal averages at same age.

No. of Cases.	Groups.	Average Age.	Height. (In Centimeters.)					Weight. (In Kilograms.)					Mean Chest-Girth. (In Centimeters.)					Mean Strength of Grip. (In Kilograms.)					Mean Reaction to Pain. (In Kilograms.)				
			Average Height in Centimeters.	Normal Average.[1] Same Age.	Inferior to Normal Average by from 1 to 28 Centimeters.	Same as Normal Average.	Superior to Normal Average by from 1 to 9 Centimeters.	Average Weight in Kilograms.	Normal Average.[1] Same Age.	Inferior to Normal Average by 1 to 22 Kilograms.	Same as Normal Average.	Superior to Normal Average by 1 to 13 Kilograms.	Average Chest-Girth in Centimeters.	Normal Average.[2] Same Age.	Inferior to Normal Average by 1 to 15 Centimeters.	Same as Normal Average.	Superior to Normal Average by 1 to 15 Centimeters.	Average Mean Strength of Grip in Kilograms.	Normal Average. Same Age.	Inferior to Normal Average by 1.32 to 11.82 Kilograms.	Same as Normal Average.	Superior to Normal Average by 1.18 to 15.18 Kilograms.	Average Mean Reaction to Pain.	Normal Average. Same Age.	Less Sensitive than Normal Average.	Same as Normal Average.	More Sensitive than Normal Average.
26	Boys.	15	150	159.9	92%	∞	8%	44.33	50.26	84%	4%	12%	74.8	76.56	70%	4%	26%	25.05	25.32	56%	4%	40%	5.89	9.62	4%	4%	92%
26	Girls.	16	150.6	156.7	86%	∞	14%	51.79	51.24	37%	4%	59%	73·	78.85	73%	16%	11%	19.95	20.82	56%	∞	44%	4.94	6.58	12%	8%	80%

[1] Bowditch's Tables of Boston children: *Twenty-second Annual Report, State Board of Health, Massachusetts.*

[2] Porter's Tables of St. Louis children: *Transactions of the Academy of Science of St. Louis, Vol. VI, No. 12.*

average by from 1 to 22 kgs, and 12% of the boys and 59% of the girls were superior to the normal average by from 1 to 13 kgs. This combination of low stature and heavy weight is common among criminal women. Both Fornisari and Madame Tarnowsky have found that prostitutes, especially, are heavier than normal women, probably, as Lombroso thinks, because of their indolent life. Among the girls examined by the writer, several were precociously developed, a peculiarity that has been noticed frequently among delinquent girls. The writer is inclined to the opinion that immoral girls, especially those that are unchaste, mature early. This fact may account for the relatively heavy weight of the cases examined. As to the boys, the writer's results are again at variance with the authorities cited by Lombroso. Riccardi found no difference in boys between the ages of 13 and 16, but above and below those ages both he and others, including Lombroso, have found that male criminals are heavier than normals.

5. *Girth of Chest.* The average mean chest-girth of the boys was 1.76 cms less than the normal average, and that of the girls 5.85 cms less than the normal average. 70% of the boys and 73% of the girls were inferior to the normal average by from 1 to 15 cms, while 26% of the boys and 11% of the girls were superior to the normal average by from 1 to 15 cms. The average lung capacity of the boys was 154 cu. in., as against 170 cu. in. among normal American men, and 161 cu. in. among normal Englishmen, between the ages of 16 and 26.[1] Notwithstanding the disparity in age, it is obvious that the delinquent boys have an inferior lung capacity. The seeming incongruity of short stature, heavy weight and relatively small chest-girth, in the girls, is accounted for by the fact that the element of expansibility of the chest enters into the result. In this respect, the delinquent girls showed inferior capacity.

6. *Strength of Grip.* In strength of grip, the delinquent boys were inferior to the normal standard by .27 kg; and the girls, by .87 kg. 56% of both sexes were inferior to the normal average by from 1.82 kgs to 11.82 kgs, while 40% of the boys and 44% of the girls were superior to the normal average by from 1.18 kgs to 15.18 kgs. There is thus but slight difference between the two classes in this respect. From the preceding comparisons it might be expected that the difference would be greater. The fact that it is not may be due to more constant exercise of the hands and arms on the part of the delinquent children. The latter, during confinement, have worked regularly at some kind of manual labor, whereas the

[1] Sargent: *Physical Development of Women.* Scribner's Mag., Vol. V, p. 178.

Worcester school children, with whom they were compared, have probably had no such exercise of the muscles of the forearm and hand.

7. *Reaction to Pain.* The average mean reaction to pain on the part of delinquent boys was 3.73 kgs greater than the normal average; and that of delinquent girls was 1.64 kgs greater than the normal average. Only 4% of the boys and 12% of the girls showed less sensitiveness to pain than normal children, while 92% of the boys and 80% of the girls showed greater sensitiveness. In testing the Worcester school children, all of those experimented with were present in the room at the same time. During the latter part of the tests, there was considerable emulation, especially on the part of the boys, and this undoubtedly affected the results. However, after making considerable allowance for this element of error, there is no doubt that the normal children were less sensitive to pain than the delinquents. This result is at variance with Lombroso's investigations, and others' as well. But it seems to the writer that it is entirely consistent with the neurotic character of many of the delinquents. A choreic boy or an hysterical girl will endure much less pain than a healthy one. As has already been said, the general health of the children examined was inferior to the normal. It is not surprising, therefore, that where there is so much derangement of the nervous systems, there should be found a relatively high average of sensitiveness.

§ 2.

Head and Face Measurements.

(See Table II.)

1. *Head.* The heads of the delinquent boys were smaller than the normal average by 1.7 cms; those of the delinquent girls were smaller by .6 cm. 64% of the boys and 40% of the girls fell below the normal average by from 1.7 cms. to 5.2 cms., while but 9% of the boys and 12% of the girls rose above the normal average by from 1.3 cms to 4.3 cms. There was a tendency to unusually small heads, or to unusually large ones. One of the boys had a head but 49.5 cms in circumference, while one had a head 59 cms in circumference. The extremes among the girls were 50 cms and 54 cms respectively. These results are similar to those generally obtained by criminal anthropologists. The delinquent classes, as a rule, have smaller heads than normal men and women, with a liability to greater extremes in size.

The average cephalic index of the boys was the same as the normal average, and that of the girls, 1.28 greater than the normal average. 50% of the boys and 68% of the girls had

brachycephalic heads; 8% of the boys and none of the girls had dolichocephalic heads; and 42% of the boys and 32% of the girls had mesocephalic heads. The tendency is therefore towards very wide heads or very narrow ones. As the Indo-European type of head is mesocephalic, that is with an index of 75 to 80, the heads of these delinquent children deviate strongly from the normal. This fact is brought out more clearly when we consider the cases separately. Four of the boys have cephalic indices above 84, while one reaches as high as 86.51. These are mongoloid types. On the other hand, one boy has a cephalic index of 73.33, which is negroid. The girls show still more interesting details. While the female head, in general, tends rather to the dolichocephalic, not one of the delinquent girls has a head of this type. On the contrary, 13 of them have cephalic indices above 81, and one reaches as high as 86.21. There is thus a marked prevalence of the mongoloid type of head, especially among the girls. As this type of head stands lower in the scale of development than does the mesocephalic, we have here a confirmation of the theory that criminal women are more atavistic than men.

Another interesting fact brought to light in the cranial measurements of these delinquent children is the relative parietal development of the heads. Two transverse diameters were considered, the ear-diameter and the parietal. The average ratio of the former to the latter was as 92 to 100 in the boys, and as 95 to 100 in the girls. The boys, therefore, had the greater parietal development. However, there were some cases where the two diameters were approximately the same. This was true of several negro girls examined, and also of a number of strikingly marked characters among the boys. This is the round or "bullet" head that is so much in evidence at police courts. It is undoubtedly the head of the lower races, and when it appears on the shoulders of a Caucasian, it is a sign of atavism. On the other hand, there were some heads with a striking development of the parietal region. A conspicuous example of this was a boy 10 years old, of insane parentage, neurotic in temperament and choreic. In general, the observations in this connection show that as the nervous system is more highly developed the parietal portion of the head becomes more prominent.

2. *Face.* The facial index was determined by dividing the bizygomatic diameter by the distance from the end of the chin to the hair line on the forehead, and multiplying the quotient by 100. The results correspond to those obtained in the case of the cephalic measurements. Both sexes have broader and shorter faces than the normal average. The facial index of the boys is 2.73 per cent. greater, and that of the girls 3.54 per cent. greater, than

TABLE II.

Showing circumference of Head and Cephalic and Facial Indices, compared with normal Standards.

No. of Cases.	Groups.	Average Age.	Circumference. In Centimeters.					Cephalic Index.								Facial Index.						
			Average Horizontal Circumference.	Normal Average.[1] Same Age.	Smaller than Normal Average by 1.7 to 5.2 Centimeters.	Same as Normal Average.	Larger than Normal Average by 1.3 to 4.3 Centimeters.	Average Index.	Normal Average.[2] Same Age.	Lower than Normal Average.	Same as Normal Average.	Higher than Normal Average.	Dolichocephalic.	Mesocephalic.	Brachycephalic.	Average Index.	Normal Average.[2] Same Age.	Lower than Normal Average by 1.17 to 11.27 per cent.	Same as Normal Average.	Higher than Normal Average by 1.10 to 9.18 per cent.	Exceptionally Narrow Face. (Below 66.)	Exceptionally Broad Face. (Above 77.)
26	Boys.	15	53.2	54.7	64%	27%	9%	80.01	80.01	50%	23%	27%	8%	42%	50%	76.35	73.62	24%	8%	68%	8%	40%
26	Girls.	16	51.9	52.5	40%	48%	12%	81.00	79.72	27%	8%	65%	∞	32%	68%	76.98	73.44	8%	8%	84%	4%	44%

[1] Quetelet's Anthropometric Tables.

[2] Computed from Porter's Tables of Measurements of St. Louis children. Op. Cit.

the normal average. 40% of the boys and 44% of the girls have exceptionally broad faces, that is, above 77; while only 8% of the boys and 4% of the girls have exceptionally narrow faces, that is, below 66. One boy had the remarkable facial index of 93, and another had an index of 84.24. Six of the girls had facial indices above 80. On the other hand, a few had exceptionally narrow faces. This was especially the case with five negro and mulatto girls. These results are similar to those obtained by criminal anthropologists generally. Ferri, in Italy, and Beliakow, in Russia, have found that delinquents have broader faces than normal men; and that among criminals themselves, the homicide is conspicuous in this respect. Madame Tarnowsky also found that among women, prostitutes and thieves have much broader faces than normal women. Among the boys examined by the writer, those who had been committed for assault and incendiarism had the broadest faces; while among the girls, those who had been committed for unchastity and stubborness had the broadest faces.

3. The significance of these results lies in the fact that an extreme either way in the length of the bizygomatic diameter is a deviation from the normal type. As in the case of the head, very broad or very narrow faces characterize the lower races. According to Topinard,[1] the New Caledonians, Lapps and Chinese represent the extreme of breadth; while the Hottentots and African negroes represent the extreme of narrowness. The Indo-European face is medium in width; that is to say, in the adults of that stock. It has been found that young children have wider heads than older ones, and there is some warrant for the inference that they have also broader faces. But this is the only exception, of a general character, to the intermediate position held by Indo-European peoples. Now the fact that the prevailing criminal face is unusually broad suggests that the typical delinquent may either not have outgrown the infantile characteristics of his own race, or that he may tend to revert to a lower race altogether.

§ 3.

Stigmata of Degeneration.

(See Table III.)

1. Morel, who may be called the father of the theory of degeneration in the human species, and whose definition of degeneration has been given above, calls attention to certain abnormal modifications which are usually found in those organisms in which the forces of growth are acting retrogressively. Lombroso elaborated the idea of such abnormal modifications

[1] *Anthropology* (Bartley's Translation): p. 252.

in application to born criminals, and has made them an important element in estimating the extent of the degenerative process. Thus when four or more stigmata are found in a criminal, he is called a complete type; when three are found, he is called a half-type; and when two or less are found, he is considered no type at all. There is much vigorous denial as to the value of Lombroso's methods in this respect, as in many others; and it seems indeed probable that he has laid too much stress upon the correlation between physical anomalies and psychical. Mental pathologists, however, have found that among the insane and other defectives such a correlation, more or less general in character, exists; and since the criminal class insensibly blends with the defective class at many points, it may be inferred that the same law operates in both cases.

The following classification of the stigmata of degeneration, as given by Dr. Meyer, will illustrate both the physical anomalies met with by pathologists and also the functional and psychical:

A. Morphological Deviations from the normal.

I. Deviations of the general proportion of the body. The hands and arms, the feet and legs, the trunk, the neck, the head (as a whole) and its parts (skull, face, jaws, mouth, nose, etc.) may be too small or too large in proportion to the rest of the body.

II. Asymmetries of skull, face, and rest of body.

III. Peculiar forms of special parts—skull (especially forehead and occiput), face, jaws, teeth, palate, lips, nose, ears, eyes,—teratological peculiarities generally.

B. Functional Deviations from the normal.

I. Abnormal innervation of one side, or of special muscles, or of vaso-motor nerves.

II. Developmental irregularities,—in dentition, learning to walk and to speak; enuresis nocturna, inclination to epileptic and other nervous attacks, etc. Lack of congruity between age and appearance.

C. Purely Psychical Stigmata.

Abnormalities of sensory perceptions (especially the pain-sense); abnormalities of habits, of ideation, of action (sexual life, emotional attitude, egotism, disequilibration, imperative ideas, mental tics, associated movements, explosive activity, periodicity, etc.).[1]

In regard to this subject, Clauston says: "All sorts of postponements of developmental processes, all forms of asymmetry about the head and face should be considered as danger signals."[2] The same writer has also called attention

[1] *American Journal of Insanity*, Jan., 1896.
[2] *Neuroses of Development:* p. 130.

to the relation between defective palates and degeneration. Sachs speaks thus of the connection between facial asymmetry and defective or diseased nerves: "In the examination of the head, we must note whether the face is symmetrical. Asymmetry may point to congenital defect or to a preceding palsy."[1]

In the writer's observations under this head, he has considered only the most important physical stigmata as pointed out by criminologists and pathologists. He is wedded to no theory as to their significance, but has deemed them sufficiently curious, if not important, to merit his attention. After all, it would seem that the scientific observation of physical anomalies in the study of mind, is nothing less, or more, than an attempt to do analytically what every person, scientist or layman, does synthetically when he judges a man's character by his face.

TABLE III.

Showing Stigmata according to types of Delinquency; also in comparison with Normal Standards.[2]

	Theft.		Unchastity.		Assault.		Incendiarism.		General Incorrigibility		Totals for Boys.	Totals for Girls.	Per cent. of Delinquent Boys having Stigmata.	Per cent. of Normal Men having Stigmata.	Per cent. of Delinquent Girls having Stigmata.	Per cent. of Normal Women having Stigmata.
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.						
No. of Observations,	10	4	5	10	2	0	3	0	6	12	26	26				
Plagiocephali,	3	1	1	1	0		0		2	3	6	5	23.0	20.0	19.2	17.2
Platycephali,	1	0	1	2	0		0		0	0	2	2	7.7	15.0	7.7	0.1
Scaphocephali,	1	0	0	0	0		0		0	0	1	0	3.8	6.0	0.0	0.0
Hydrocephali,	1	0	0	0	0		0		0	0	1	0	3.8		0.0	
Asymmetrical Face,	3	1	1	6	0		2		2	4	8	11	30.8	6.0	42.3	0.1
Prognathous Jaws,	1	0	1	3	0		1		0	5	3	8	11.5	34.0	30.8	10.0
Large Lower Jaw,	2	1	2	1	2		0		1	2	7	4	26.9	29.0	15.4	6.5
Precocious Wrinkles,	1	0	1	0	0		0		0	0	2	0	7.7		0.0	
Bad Eruptions,	0	0	3	0	1		0		0	0	4	0	15.4		0.0	
Large Birth-marks,	1	0	0	0	0		0		0	0	1	0	3.8		0.0	
Asymmetrical Ears,	3	0	0	2	0		2		2	1	7	3	26.9		11.5	
Protruding Ears,	4	0	3	0	0		0		2	0	9	0	34.6		0.0	
Deformed Palate,	4	1	2	4	1		0		3	4	10	9	38.6	19.0[3]	34.6	19.0[3]
Asymmetrical Arms,	4	1	2	5	1		1		2	5	10	11	38.6		42.3	
Web-feet,	0	0	0	0	0		0		1	0	1	0	3.8		0.0	
"Pigeon-breast,"	0	–	0	–	0		1		2	–	3	–	11.5		–	
Total Stigmata,	29	5	17	24	5	0	6	0	17	24	74	53				
No. per Child,	2.9	1.2	3.4	2.4	2.5	0	2	0	2.8	2	29	2				

[1] *Nervous Diseases of Children:* p. 12.
[2] Lombroso: *L'Homme Criminel*, 2d French Ed., p. 170.
[3] Clouston: *Neuroses of Development.*

2. *Head.* Of the 26 boys studied, 6 had plagiocephalic heads; 2 had platycephalic heads; one had a scaphocephalic head; and one, a hydrocephalic head. Of the 26 girls, 5 had plagiocephalic heads; and 2 had platycephalic heads. These are all deviations from the normal, and indicate that at some time in pre-natal or post-natal life healthy growth has been interfered with. The first three anomalies show an unsymmetrical development of the brain, either from a premature closing of one or more of the sutures or from some hindrance to the trophic functions of the nerves. The fourth anomaly is due to the morbid secretion of liquid in the ventricles of the brain, which constitutes the disease known as hydrocephaly. Of the relation between plagiocephaly and brain disease, Lombroso says: "The exaggerated asymmetry of one side of the skull (plagiocephaly) constitutes one of the special characteristics of lunatics, especially epileptics."[1] In five cases of epilepsy examined by the writer, four were found to have marked cranial anomalies; while in three cases of chorea, two were found with cranial anomalies. Of the 10 cranial anomalies found among reform-school boys, 6 occur in cases committed for theft. While of the 7 cranial anomalies found among reform-school girls, 3 occur in cases of unchastity and 3 in cases of general incorrigibility, which, as regards girls, often means sexual waywardness.

In general, these results are similar to those obtained by most criminologists. From numerous statistics given by Lombroso,[2] we find that plagiocephaly appears in 42% of criminal men and 21% of criminal women; platycephaly, in 15% of criminal men and 33% of criminal women; and subscaphocephaly, in 6% of criminal men and 3.3% of criminal women. Madame Tarnowsky[3] found that out of 150 prostitutes, 62, or 41.3%, had cranial anomalies. When compared with normal standards, all of the above results are found to indicate a considerable deviation from the ordinary type of men and women. Dr. Warner, in his investigations among London children, already referred to, found that but 6% of the boys and 5% of the girls had cranial anomalies. Lombroso's statistics show less disparity between the normal and the abnormal, yet even here it is sufficiently well marked in most cases. According to this authority, plagiocephaly appears in 20% of normal men and 17.2% of normal women; platycephaly, in 15% of normal men and 0.1% of normal women; and subscaphocephaly, in 6% of normal men and in no normal women.

3. *Face.* Where the facial asymmetry was not so conspic-

[1] *Criminal Anthropology Applied to Pedagogy:* Monist, vol. VI, p. 52.
[2] *L'Homme Criminel*, 2nd French Edition: p. 170.
[3] Etude Anthropométrique: p. 41.

uous as instantly to attract notice, measurements were taken as follows: (1) From the tragus of either ear to the outside corner of the adjacent eye; (2) from the tragus of either ear to the end of the nose; (3) from the tragus of either ear to the adjacent corner of the mouth; and (4) from the tragus of either ear to the end of the chin. 8 of the boys and 11 of the girls had facial asymmetry, that is, 30.8% and 42.3%, respectively. According to Lombroso, the normal average for men is 6%, and for women, 0.1%. This marked deviation from the normal in the boys and girls examined, is paralleled, substantially, by Lombroso's criminal statistics. According to the latter, 25% of criminal men and 33% of criminal women have facial asymmetry. It is interesting to note that while statistics are uniform in showing that female delinquents have fewer cranial anomalies than their brothers, the testimony is equally clear that facial asymmetry is more common among women of this class than among men.

To understand the significance of this, as other forms of asymmetry, it must be remembered that it is probably a sign of some congenital defect, the result of heredity or pre-natal accident; or else it is a symptom of nerve degeneration. While slight facial asymmetry is common among normal men and women, nevertheless most faces are not sufficiently asymmetrical to attract notice. Certainly in the best physical types there is harmony in this, as in other respects. In most of the cases examined by the writer, even when exact measurements were taken, the symmetry was found to be relatively perfect. In many of them there was not so much as a millimeter's difference in the measurements on the two sides of the face. This fact, which has been confirmed by much incidental observation, would indicate that the human face is usually symmetrical, and that the asymmetrical face is a deviation from the normal type.

4. *Palate.* Clouston has given the following tabulation of statistics showing the relation of anomalous palates to mental disease and crime: [1]

Different Classes of Persons.	No. of Persons Examined.	Typical Palate.	Neurotic Palate.	Deformed Palate.
		(p'r c'nt.)	(p'r c'nt.)	(per cent.)
General Population,	604	40.5	40.5	19
Criminals (Degenerate),	286	22	43	35
Insane (Acquired),	761	23	44	33
Epileptics,	44	20	43	37
Adolescent Insanity,	171	12	33	55
Idiots and Imbeciles (Congenital Insanity),	169	11	28	61

[1] *Op. Cit.*: p. 49.

It is this author's belief that such relation is not accidental, but essential. The following are some of the reasons given: (1) The relation between the shape of the palate and the base of the skull is close and absolute; (2) if the growth of the skull is absolutely dominated by the brain which it contains, then the brain-growth will secondarily determine the shape of the upper maxillary bone and the palate; (3) since the brain unquestionably derives its shape and size from ancestry, and since a bad heredity will therefore determine a bad brain, we see how a bad, nervous heredity would naturally determine an abnormal palate.

Of the 26 delinquent boys examined by the writer, 10, or 38.6%, had deformed palates; and of the 26 delinquent girls, 9, or 34.6%, had deformed palates. Compared with Clouston's statistics of normal persons, these percentages are almost twice as high. There is a suggestive parallelism between the palates and plagiocephaly. As in the case of the latter, thieves among boys, and sexual offenders among girls, had the highest per cent. of deformed palates.

5. *Other Stigmata.* The foregoing have been considered the most typical and significant anomalies. Several others may be briefly mentioned, however. 11.5% of the boys and 30.8% of the girls had prognathous jaws. The large per cent. of girls with this peculiarity may be accounted for in part, though not entirely, by the presence of 5 negro and mulatto girls, the negro race being generally prognathous. More boys than girls had large lower jaws, the percentages being 26.9 and 15.4, respectively. The girls were entirely free from precocious wrinkles, bad eruptions, and unsightly birth-marks; but these anomalies were found in the boys in the following percentages, respectively: 7.3; 15.4; and 3.8. More boys than girls had asymmetrical ears, the ratio being as 7 to 3. None of the girls had protruding ears, while 9 of the boys had this anomaly conspicuously present. 10 of the boys and 11 of the girls had arms of unequal length. In the former case, 2 had the right arm longer, and 8 had the left arm longer. In the latter case, 4 had the right arm longer, and 7 had the left arm longer. The difference in length varied, in the case of the boys, from 1 to 2.5 cms; in the case of the girls, from 1 to 3 cms. One boy was found with the second and third toes on each foot webbed to within about 1 cm of the end, and with the little finger on each hand badly bowed. These were congenital defects, and hereditary; the same peculiarities being possessed by the mother, one sister, a maternal uncle, and a maternal aunt. This same boy, it may be mentioned in passing, had very large, protruding ears, with a Darwin tubercle conspicuously marked; a badly deformed palate; and striking asymmetry of face. Three of the boys had very

narrow, prominent chests, illustrating what has been called the "pigeon-breast." This malformation, which is traceable to rickets in childhood, was found in one boy who showed symptoms of epilepsy; in one who was dwarfed in body and intellect; and in one who had been troubled with scrofula.

§ 4.

Sensory and Mental Reactions.

(See Table IV.)

1. The bearing of the facts collected under this head, upon the question of healthy, symmetrical growth is very definite. Whatever doubts one may entertain regarding the relation between moral phenomena and such things as height, weight, strength, cephalic or facial indices, and physical stigmata, it cannot be doubted that the condition of the senses and the intellect sustains a most important relation to such phenomena. Throughout the present study the conviction has been fundamental that every sense and faculty of a man has got to be taken into account in estimating his conduct. The feeling that constrains, and the decision that enables, an individual to conform his actions to moral law may be regarded as the synthesis of all the physical and psychical attributes. They are the final stage in evolution, but they are not independent of the lower stages through which development has been accomplished. If sense or intellect be defective or morbid, the growth of the individual cannot have been quite the same in those qualities and functions which are requisite to fit one for ethical relationship with his fellows. Not that a blind man or a deaf man is in so far immoral, but that a part of the world's experience and the world's consciousness is shut out from such unfortunates, and that unknown part may include some element of experience or sentiment without which a moral obligation cannot be met. Alas, how many are the boys and girls in the public schools whose defective sight or hearing has given them the reputation of being careless or insubordinate! They have not heard the instructions of the teacher, and therefore have not obeyed them; or they have not been able to see the exercises written upon the blackboard, and have peeped over the shoulders of seat mates that they might copy them. Thus, judged by the conventional standards that govern the school-room, as well as the world, these defective ones have been thought disobedient, or careless, or dishonest.

2. *Senses.* Sight was tested (1) by holding "long primer" type at a distance of 24 inches from the eyes; (2) by allowing the boy or girl to hold a book printed in this type, in the position he or she was accustomed to, and noting the distance and

TABLE IV.

Showing Sensory and Mental Reactions, as compared with Normal Standards.

No. of Cases.	Groups.	Average Age.	SENSORY.										MENTAL.									
			SIGHT.		HEARING.		TOUCH.						ATTENTION.				MEMORY.				ASSOCIATION.			
			Per cent. Defective among Delinquent Children.	Per cent. Defective among Normal Children.[1]	Per cent. Defective among Delinquent Children.	Per cent. Defective among Normal Children.[2]	Average among Delinquents. In Millimeters.	Normal Average.[3]	Per cent. having Delicate Touch. 1.5 or less.	Same as Normal Average.	Per cent. having very Dull Touch. 3. or more.		Delinquent Average.	Normal Average.[4]	Per cent. Superior to Normal Average.	Per cent. Inferior to Normal Average.	Delinquent Average.	Normal Average.[4]	Per cent. Superior to Normal Average.	Per cent. Inferior to Normal Average.	Delinquent Average.	Normal Average.[4]	Per cent. Superior to Normal Average.	Per cent. Inferior to Normal Average.
26	Boys.	15	32%	18%	28%	22.25%	2.4	2.2	12%	32%	32%		78	100[5]	24%	76%	99	100	64%	36%	44	100	17%	83%
26	Girls.	16	20%	24%	24%	21.77%	2.3	2.	00	44%	32%		80	100	26%	74%	91	100	36%	64%	113	100	56%	44%

[1] Dr. G. M. West's tests of Worcester school children: *Am. Journal of Psychology*, Vol. IV. Ninth Grade pupils are taken as the standard.

[2] Reichard. Summarized by Oscar Chrisman, PEDAGOGICAL SEMINARY, Vol. II.

[3] Marro, Lombroso, and others.

[4] From tests of Worcester school children, made by the author.

[5] In each case, the average of normal children is taken as 100, and the delinquent average is reckoned upon that basis.

angle, for comparison with normal standards; and (3) by bringing objects within the field of vision, from various directions. Hearing was tested by holding an open watch at various distances from the ear, and on a level with it; also at different positions above and behind the head. In both sight and hearing, the tests were aimed to be simple, and they erred, if at all, on the side of weak organs. That is to say, only well-marked defects were sought for. In almost every case, the writer's judgment was confirmed by the testimony of the children themselves. Touch was tested by means of an aesthesiometer. One or more fingers of either hand were experimented with a number of times, and the average result taken.

32% of the boys examined, had defective sight, as against 18% among normal boys; and 20% of the girls examined, had defective sight, as against 24% among normal girls. The defects were usually a contraction of the field of vision or short-sightedness, and were frequently associated with symptoms of epilepsy and hysteria. 28% of the delinquent boys and 24% of the delinquent girls had defective hearing in one or both ears, as against 22.25% and 21.77%, respectively, among normal children. A large number of the cases of deafness dated from infantile diseases, such as scarlet fever and measles. 32% of both sexes showed dull sense of touch; 32% of the boys and 44% of the girls had normal sensitiveness; and 12% of the boys and none of the girls had delicate touch-discrimination. The average sensitiveness of the boys was 2.4 mms, and that of the girls 2.3 mms, as against 2.2 mms and 2 mms, respectively, among normal persons.

3. *Intellect.* All of the delinquents were tested individually in reading, spelling, and easy arithmetical problems. Besides, a series of special tests were employed to determine (1) the ability to attend to a given task consecutively; (2) the distinctness of mental impressions and facility in reproducing them; and (3) the range and accuracy of association of ideas. There were four tests of attention, as follows: (1) five minutes spent in copying figures grouped in columns upon a sheet of card-board and exposed so that they could be plainly seen; (2) five minutes spent in adding the columns of parts of columns that had been copied; (3) three minutes spent in copying monosyllabic words selected with reference to easy sentence-structure; and (4) five minutes spent in combining these words into short sentences, each of four words These tests involved definite and consecutive attention in rapidity of work, in accuracy, and in the ingenuity shown in selecting and combining words. There were eleven tests of memory, as follows: eleven cards were exposed successively at an opening in a sheet of black card-board; and after each exposure, the subjects were required to write down

what they saw. Each card was exposed for one second, and 30 seconds were allowed for writing down the result. The cards were white, and the size of a cabinet photograph. They were in three series. The first had pasted upon them, in large, distinct type, 3 single figures, 5 single figures, 2 double figures, 3 double figures and 5 double figures, respectively. The second series bore 3, 5 and 7 colors, respectively; and the third series bore, respectively, 3 pictures of fruit, 4 pictures of animals, and 2 pictures of people in motion. In the case of the last picture, the subjects were asked to write down what the people were doing. Finally, there were five tests of association, as follows: (1) a card bearing a group of 5 letters was exposed for 30 seconds, and the subjects were told to fix well in their mind what they saw on the card. Then a second card, which bore one of the letters that had appeared on the preceding, was exposed, and the subjects were told to write down what the letter called up in their minds; (2) a card bearing a group of 3 colors, and one bearing a single color of the three were operated in the same manner; (3) another color set, with different colors, was similarly used; (4) a familiar word, rich in youthful associations, was written upon the blackboard, and the subjects were asked to write down what it suggested; and (4) a second familiar word, related to a different class of experiences, was written upon the blackboard, and the same request was made as before.

These tests were used in the case of the two groups of reform-school children, and in that of two similar groups of children in the Worcester public schools. The same conditions were observed, so far as possible, in both cases. Except in two instances, all the boys and girls tested had sufficient rudimentary education to perform readily the tasks assigned. Indeed, the tests were studiously arranged to meet every condition, so far as possible. The average result of each series of tests among the normal subjects was taken as the standard of comparison, that is to say 100 per cent. Estimated by this standard, the following are the results for the delinquents: In attention, the average for boys was 78%; and for girls, 80%. 76% of the boys and 74% of the girls were inferior to the normal average. In memory, the average for the boys was 99%; and for the girls, 91%. 36% of the boys and 64% of the girls were inferior to the normal average; while 64% of the boys and 36% of the girls were superior to the normal average. In association, the average for boys was 44%; and for girls, 113%. 83% of the boys and 44% of the girls were inferior to the normal average; while 17% of the boys and 56% of the girls were superior to the normal average.

It thus appears that, in the delinquent children, there is a marked inferiority in attention. This was shown not only in

the results of the tests, but also in the manner in which they responded to them. In many of the subjects, inattention was conspicuous throughout. Especially in some of the boys there was the same restlessness and irregularity in application to their task that one sees in very young children. Such a general inferiority in attention is significant. It argues either an approximation to the infantile mind or to the instability that characterizes morbid mental conditions. Sully says that "Attention involves an intensification of consciousness, a concentration or narrowing of it on some definite and restricted portion of the mental scene."[1] That is to say, attention requires effort. It is the most fundamental attempt of the mind to control itself. Now the ability of the mind to thus intensify its own consciousness, to concentrate itself, to bring itself into subjection to an idea or purpose, is of supreme importance in intellectual growth. Incompetent and irresponsible persons are deficient, or utterly lacking, in this ability. Infants and very young children cannot attend long to one thing. The center of interest changes with every passing impression. Idiots and imbeciles are conspicuous for their inattentiveness. Certain forms of insanity, as in delirium or acute mania, illustrate the inability of the mind to concentrate itself. In short, the power of attention characterizes a mind at once active and alert through resourceful energies and at the same time stable in its ability to control and direct them.

Now, it is well known that the criminal type of mind is deficient in this ability to control and direct its energies. Perhaps at the very threshold of most flagrantly delinquent lives may be found a certain instability or indeterminateness of ideas, a tendency of mind childlike to chase every vagary of fancy. Lombroso says that the intellect of criminals is characterized by a fickleness and instability of ideas that is truly remarkable. M. Parent du Chatelet says, regarding prostitutes, that it is impossible to fix their attention long upon anythiug. This fact explains their improvidence and restlessness. Hysterical offenders are also singularly deficient in the power of attention. Among the delinquents examined by the writer were two girls and one boy who could not attend to the tests long enough to make intelligent responses.

The memory tests were not so conclusive. These were intended to bring out mainly the fundamental elements of memory; that is to say, the sensitiveness of the mind to impressions, and its power of comprehending these impressions determinately. A deficiency in this respect is perhaps not so common as a lack of attentiveness, especially among children. The young mind,

[1] *Teacher's Hand-book of Psychology:* p. 67.

ordinarily, is sensitive and plastic beyond everything else. It is only in exceptional cases, of congenital defect or disease, that the opposite condition is found. However, while the average per cent., especially that of the boys, did not fall much below the normal average, there was yet a comparatively large number who were inferior. An examination of individual cases emphasizes this inferiority. Four boys ranked only 25%, 34%, 40% and 64%, respectively; while ten girls ranked below 64%, one of them falling as low as 40%. All of these extreme cases were boys and girls whose grade of intelligence was low, as appeared particularly in the individual tests that were made in various branches of study. No such extreme cases were found among normal children.

This element of mental inferiority owes its importance to the fact that an exceptionally poor memory may indicate either congenital defects, or an impairment of the mind through disease or senility. The latter is not common among young persons. Usually when a child or youth cannot receive, or retain readily, the impressions made through the senses, there is some congenital defect. This is one of the most striking characteristics of idiots and imbeciles. Of the latter, Ribot says: "Most of the patients are afflicted with a general debility of memory. It varies according to individuals, and in some may be such as to render impossible the acquisition and retention of the simple habits which constitute the daily routine of life."[1] The general lack of teachableness, the inability to learn from precept or experience, which is such a conspicuous trait in many delinquent children, is beyond doubt traceable to the same cause. It is altogether probable that much of the incorrigibility among both juvenile and adult offenders strikes its roots in a sort of congenital amnesia.

The tests of association showed a marked inferiority on the part of the boys, and, on the other hand, a superiority that was quite as marked, on the part of the girls. There are several things that may partially account for this superiority of the girls. The ready association of ideas is, more than attention or memory, a matter of age and development. Other things being equal, the older the child the greater the tendency to see things in their relations, and the more closely knit together are all the contents of consciousness. Now the delinquent girls were one year older, on an average, than the delinquent boys. They were also, as a group, somewhat older than the normal girls. But, more especially, as has been stated before, they included among their number several girls who were conspicuously precocious in development, and who proved to be altogether superior

[1] *The Diseases of Memory:* Chap. II, sec. 4.

in the intellectual tests. These girls surpassed in association the highest rank among the normal girls, and showed in this, as in other tests, an altogether exceptional alertness of mind. It was these cases that helped to raise the general average of the delinquent girls.

But here again, as in attention, the inferiority of the delinquents crops out in individuals. Three of the girls ranked 00% ; two ranked 25% ; and five ranked 50%. Among the boys, the inferiority was general, the average being but 44% of the normal. Five of them ranked 00%; eight ranked 25% ; and four ranked 40%. In both girls and boys, the failures were among those whose general intellectual dullness was apparent throughout the tests.

The tendency to note relations and to establish wider and wider associations of ideas is obviously one of the things that particularly differentiates an active from a sluggish intellect. A congenitally defective mind, or a mind whose growth has been arrested from whatever cause, cannot but show a certain disjunctiveness and paucity of ideas. It sees things only as singles, whether it be an idea or an act that is in question. It understands but imperfectly such things as cause and effect, antecedents and consequences. It realizes itself in a life whose impulses and accomplishments have as little coherence and as little adaptation to normal environments as have the disparate ideas which initiate them. Such a mind must the delinquent have, whose life is so often a series of contradictions, a veritable confusion of instincts and passions, an anarchy of self-direction and control.

CHAPTER III.

INTERPRETATION OF DEGENERACY.

It is believed that the foregoing study of delinquent children has demonstrated a general deviation from the physically and intellectually normal type. A deviation from the morally normal type has, of course, under the circumstances, been assumed. The salient points of inferiority may be finally summarized as follows:

1. There was a tendency to shorter statures, lighter weight, diminished strength in the muscles of the hands, and greater sensitiveness to pain.

2. There was a tendency towards smaller heads, broader heads, and broader faces, the type being, in general, that of lower races or of the infantile period of our own race.

3. There were more physical anomalies than are found among normal persons, mainly in the direction of asymmetrical heads and faces, and deformed palates.

4. There were more defects in sight and hearing, and a greater dullness in the sense of touch, than are found among normal persons.

5. The intellectual reactions were, in general, inferior to the normal. More specifically, this was the case in attention, memory, and association.

It is to be remembered that these conclusions hold true only of the majority of the cases, that is to say, of the type. The tables will show, more clearly than has been elsewhere stated, that in each series of tests there were found boys and girls equal, or superior, to the normal standard. These cases the writer is glad to except from whatever unfavorable references the study may contain. Some of them were bright and interesting, illustrating the truth that even in reform-schools there are those who make one think a little better of his fellows, for having seen them. But it must be confessed that most of the delinquents might be described in the words used by Prof. Lankester in speaking of a class of creatures much lower in the scale of existence: "They are instances of degeneration; . . . They are the modified descendants of animals of higher, that is, more elaborate structure." In them, some, at least, of the forces of development are acting retrogressively. There has probably been long operative in the stock from which they have sprung, a process of deviation which, as Morel says, contains "transmissible elements of such a nature that any one bearing in him the germs becomes more and more incapable of fulfilling his functions in the world." Like tens of thousands of their kind throughout the world, they will spend their lives in state institutions or under police surveillance. They are out of harmony with their environments; and are, far more than is usually appreciated, *incapable* of meeting the demands of a civilization that exists only by assimilating the good and eliminating the bad.

It remains to answer briefly, and inadequately, the question to which all of the foregoing discussion leads up: What interpretation shall be placed upon the degeneracy that has been found to exist in these groups of reform-school children? If it is the product of forces that are operating in a direction contrary to the forces that make for righteousness and civilization, what are these forces? Two groups of facts obtained through the present study shall serve as the writer's answer to this question.

§ 1.

Delinquent Parentage.

(See Table V.)

Most of the delinquents examined, had parents that were intemperate, improvident or criminal. A little over 80% of the

TABLE V.

Showing Parentage, Surroundings, etc.

PARENTAGE.				SURROUNDINGS.			HABITS, ETC.		
		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.
Nationality.	Irish,	14	1	Poor Home,	15	12	No occupation, (Idle.)	23	20
	American,	3	9						
	French-Canadian,	4	6	No Home,	6	8			
	Negro,		5				Drink intoxicants of various kinds,	4	3
	Swedes,		2	Belong to families in which there are delinquents,	6	5			
	Jews,	1	1				Use tobacco, especially cigarettes,	23	
	English,	1		Poor educational advantages,	18	22			
	Scotch,	1					Frequent houses of prostitution,		4
	Russian,		1	Bad associates,	26	25			
	Unknown,	2	1				Night walkers,		9
Occupation.	Laborers,	16	12				Been under arrest before present confinement,	17	6
	Peddlers,	2							
	Clerk,	1	1						
	Merchant,		1						
	None,	3	6						
	Unknown,	4	6						
Religion.	Catholic,	19	9						
	Protestant,	4	9						
	Hebrew,	1	1						
	None,		3						
	Unknown,	2	4						
Intemperate.	Father,	15	10						
	Mother,	6	2						
	Both,	5	2						

boys had either drinking fathers or drinking mothers, and 19% of them had both. 45% of the girls had either drinking fathers or drinking mothers, and about 8% of them had both. This means that so many fathers and mothers were known to have been drinkers. Since such statistics are often obtained from the parents themselves or their children, they are not apt to err on the side of exaggeration. Moreover, "drinking" is to be understood as "hard drinking," a point upon which the writer took especial pains to inform himself. As might be expected under the circumstances, most of the fathers were irregularly employed. As a rule, they were laboring men, but they did not have regular employment. They depended upon odd jobs, and frequently had nothing to do. Some of them could not provide for their families, and others made no attempt to do so. In two cases, their children were allowed to go to almshouses,

and in several others their families were deserted entirely. One had spent a part of his youth in the same reformatory his boy is now confined in; two were in state-prison; one was in an inebriate asylum; and several others had had extensive experience in police-courts. The mothers were what the wives of drunkards usually are—either hard-working, neglected women; invalids through abuse or excessive child-bearing; or besotted creatures like their husbands. Eight of them were hard drinkers, and two were known to have been unchaste.

The central fact of importance in relation to parentage is, therefore, intemperance. This it is that is chiefly responsible for irregularity of employment, neglect of families, and criminal conduct. This, too, if anything, must sustain an intimate relation to whatever has been transmitted from parent to child. Neglecting, as of secondary importance, the physical aspects of the vice of intemperance, its bearings upon mental degeneration will now be considered.

Morel long since pointed out the disastrous effects of alcohol upon the nervous system, and through that upon the psychical character. This writer says: "It acts upon the nervous system as a poison. The symptoms of such poisoning manifest themselves externally by alternate excitement and depression. The partial paralyses are but premonitions of graver disorders, which terminate in general paralysis, stupidity, and the complete loss of intelligence. The lesions revealed after death explain the untimely end of the unfortunate whom the basest and most irresistible of passions has destroyed."[1] Since this was written, in 1857, both medical science and mental pathology have assiduously cultivated the field that Morel was among the first to enter and lay claim to as a part of the domain of science. Not only have the grosser lesions in the brains of alcoholics been more and more carefully studied, but, through the media of improved histological apparatus and methods, the finer and more subtle lesions have also been determined. As illustrating recent methods and conclusions concerning this subject, the experiments of Andriezen may be mentioned. This pathologist has made extensive investigations by means of the Golgi method of staining sections of the brain. After stating that anatomico-physiological connections between the neurons of the normal brain are sufficiently well known to afford a standard of comparison, he speaks thus of the same structures in the brains of alcoholics: "Our observations show that change of a striking and unmistakable character occurs in the ultimate protoplasmic expansions and 'contact-granules' situated upon them on the

[1] *Op. Cit.*: p. 79.

one hand, and in the ultimate naked fibrils (collaterals and terminals) which everywhere come into relation with such protoplasmic termini and granules on the other. Beginning with a softening and swelling of these contact granules, and also of the protoplasmic twigs on which they are situated, the earliest noticeable changes are a coalescence of these into small irregular 'composites' of such, recognizable here and there as a local coarseness. As the changes progress in coarseness and extent, they can now be more easily recognized as commencing moniliform swellings along the course of the terminal protoplasmic twigs. . . . . With the further progress of the lesion these softened and enlarged protoplasmic masses form irregular botryoidal masses, mainly clothing the now irregularly bared protoplasmic stem, which itself rapidly becomes softened, attenuated and excavated (vacuolated) in places, till finally what is left is a mere ghost-like tattered protoplasmic stump, such as some of the cells exhibit. . . . . Here and there at the side of the cell body the protoplasm seems to get frayed, and, as it were, eroded or ulcerated away, the site of such being a local excavation of the cell-protoplasm, with an adjacent little heap of *debris*. In other cells these changes will start from several points on the surface of the cell body irregularly eroding and demolishing it, until but small fragments of the cell, mere ruins, with a little *debris*, are left in the pericellular sac. Such a cell, in which the destructive process has yet left its axis-cylinder and a few withered basilar-protoplasmic processes, is seen. In other cases, again, the cell-protaplasm gets vacuolated from within, and the progress of this continues till its whole internal protoplasmic structure is channeled and tunneled by such holes and seams of liquefaction."[1]

The same author thus summarizes the external symptoms of these brain-lesions in alcoholics: "(1) Diminished power of recollection (annesia), i. e., of revivifying past mental images; (2) diminished power of attention and volition, i. e., in sensorial or kinaesthethic spheres, including their interconnections; (3) diminished initiativeness and energy in conduct (correlated to one and two); (4) diminished muscular power; trembling; muscular act requiring to be reinforced by other sensory stimuli for efficient execution; (5) blunting of higher moral and ethical sense; (6) insomnia; loss of capacity for sleep and recuperation; and (7) serious disturbance in the balance of cortical representation of external world and empirical ego, with melancholia and suspicion, delusions of persecution, and excitement, hallucinations, vague and gloomy feelings, and other pathetic

[1] *Quarterly Journal of Inebriety*: Vol. XVIII, p. 5.

emotional states, suicidal tendencies, passing into various chronic insanities."[1]

This may be accepted as substantially the verdict of many pathologists regarding the mental degeneration of the victims of alcoholism. It establishes beyond question two facts: (1) that there are liable to occur in every confirmed drunkard grave functional disturbances which utterly unfit him for healthy mental activity; and (2) that the very constitution of the brain itself is altered, the cells and their connections undergoing a process of radical disintegration. We have, therefore, in confirmed drunkards a reversal of the conditions essential to development. The forces of evolution have ceased to act in the direction of a more complex and efficient organism. They are acting retrogressively, that is to say, in the direction of degeneration and ultimate extinction. The question next arises, do the morbid processes thus set up in the victim of alcoholism cease to operate with his extinction as an individual, or do they continue in his offspring? The answer to this question is a problem of heredity, and must depend for its final solution upon inquiries much beyond the scope of the present study.

However, without presuming to weigh the merits of the Weismann-Spencer controversy, as to whether acquired qualities can be inherited, it is quite easy to array most excellent authorities in support of the view that the children of a drunkard may inherit the morbid conditions that exist in the parental organism. To begin with, Charcot is credited with saying that every drop of the seminal fluid of a drunkard contains the germ of all the neuropathies. Richardson says: "The solemnest fact of all bearing upon the physical deteriorations and upon the mental aberrations produced by alcohol is, that the mischiefs inflicted by it on man through his own act and deed cannot fail to be transmitted to those who descend from him."[2] Morel says: "There is no other malady whose hereditary influences are so fatally characteristic. If congenital imbecility and idiocy are the extremes of degradation in the descendants of alcoholics, there are a great number of intermediate states revealed through aberrations of intelligence and such extraordinary perversions of sentiments that one would seek in vain for an explanation of these abnormal facts in the study of human nature deprived of its intellectual and moral ends."[3] Clouston says: "These degenerations (alcoholic) are transmitted from generation to generation in the same or other forms by hereditary laws, if not corrected by new and improved conditions of life. In some individuals they are mere potentialities and tendencies, in others

[1] *Op. Cit.:* p. 3.
[2] *Diseases of Modern Life:* p. 272.
[3] *Op. Cit.:* p. 80.

they have assumed definite forms, and become insanity, idiocy, stuntedness of growth, ugliness, deformity, deaf-mutism, sterility, incapacity for high kinds of education, and immorality."[1] Hyslop says: "The consequences of alcoholism on the part of parents are, not only impairment of their own mental faculties, but also in the offspring a tendency to drink, epilepsy, insanity, nerve-diseases, idiocy or imbecility, and in a word, extinction of the race."[2] Strahan says: "The appetite for alcohol is only too easily cultivated, and the man or woman who, through weakness or thoughtlessness, saturates his brain with it frequently, must not be surprised if his sin be visited upon his children as idiocy, epilepsy or other grave nervous or physical deformity."[3]

The testimony of pathologists, therefore, accords with that of men generally, from the time of the Hebrew writers down to the present, that the iniquities of the fathers shall be visited upon the children. Now when we recall that 80% of the boys and 45% of the girls entering into the present study, have had just such a parentage as is outlined above, need there be any difficulty in accounting for their deviations from normal types? The morbid processes which in the parents operated to produce debilitated memories, diminished power of attention, loss of self-control, improvidence, and criminality, have also operated in the children to produce intellectual and moral inferiority and incapacity. Moreover, if, as is the case, the development of the brain and nervous system during ante-natal and early post-natal life, determines largely the size and form of head, the shape of face, etc., it becomes easy to explain the anomalous cephalic and facial indices, the deformed palates, and all asymmetries and stigmata whatsoever. A neuropathic diathesis has merely registered its presence by means of these superficial marks.

§ 2.

Bad Environments.

The second group of facts that stands out conspicuously in the study of these delinquents is the bad surroundings of their early life. Nearly 58% of the boys and 46% of the girls come from poor homes, that is to say, homes in which poverty and drunkenness were the rule. 23% of the boys and 30% of the girls appear to have had no regular home at all. They either were inmates of public or private institutions, or they were practically vagrants. The most of the cases had poor educational advantages, either because of parental or social neglect.

[1] *Mental Diseases:* p. 444.
[2] *Mental Physiology:* p. 477.
[3] *Marriage and Disease:* p. 123.

Practically all of them had bad associates, and were allowed to run the streets in idleness. The result was that 15% of the boys and 11% of the girls early learned to drink intoxicants, 88% of the boys contracted the tobacco habit, and 34% of the girls became wayward as street-walkers or prostitutes.

Now it is a law operative throughout nature that an individual plant or animal is modified by its environments. If the environments be favorable, the modifications will be in the direction of greater complexity and perfection. If the environments be unfavorable, however, the modifications will be in the direction of less complexity and perfection. It is also a law operative throughout nature that if morbid conditions exist in the individual, the modifications due to bad environments will be more rapid and debilitating in character. When we apply these laws to the delinquents under consideration, we see at once the second great force that has operated to make them what they are. It has been seen that they inherited degenerative processes which had been started either in the lives of their parents, or in those of some more remote progenitors. They were born into environments that were eminently favorable to the continuation and completion of such processes. It is just as if a child of consumptive parents should be born into surroundings favorable to the development of that disease. If it were taken to a healthier locality, the tendency to consumption might remain latent and the child live to maturity. But, if it remained in the surroundings of its birth, it would in all probability soon pay the penalty of diseased heredity augmented by unfavorable environments.

1. The first elements to be noticed in the early surroundings of these delinquent children are the poverty and improvidence of the parents. These things mean improper or insufficient food in infancy and childhood. Probably many of the diseased or otherwise inferior constitutions that were met with, were in large part due to such causes. To take a single infantile disease, which is mainly the result of bad feeding, namely Rickets, it would be no wonder if the poorly-nourished mother should be unable to supply from her own bosom the requisite food, or from her scanty purse the means wherewith to buy it. The writer has been told by a lady of extended experience in "Children's Homes," that among the children admitted to these institutions the number suffering from insufficient or improper nourishment is very large. Frequently they have to receive medical treatment, or at least be fed for weeks or months on specially prepared foods. The writer saw one little fellow of four or five years, who, when he was admitted some months before, had to be fed with a spoon. His was a case of sheer starvation. The streets and alleys of any of our large cities will supply abundant

illustrations of hungry, stunted-looking children, while the statistics of mortality in these same cities will show how large is the per cent. of infants of this class who never cross the threshold of childhood at all.

2. If the children of immoral and improvident parents suffer from semi-starvation physically, much more do they suffer from intellectual starvation. Mental growth is not favored by conditions that constantly tend to impair physical vitality, by irregular attendance at school, or by general parental and social neglect to supply incentive and stimulus. It would be no wonder if the minds of such children should be arrested in their development, and, in many respects, remain practically at the infantile stage. But there is not only little in such environments to excite the mind to healthy activity and bring the individual into wider and more humanizing relations; there is not even anything to oppose the deteriorating influences of bad heredity. If, to begin with, there was a brain and nervous system structurally inferior, little adapted to receive and store up impressions, and predisposed to unstable functional activity, the influence of the surroundings has been to increase such defects. What discipline in mental receptivity or retentiveness, in stability of attention or volition, can be derived from circumstances and experiences that favor a constant riot of the senses?

3. As regards morality, the disadvantages of bad environments are equally obvious. Whether moral sensitiveness be regarded as innate or as a development like any other quality of mind, it depends for its fullest and best expression upon circumstances. In the language of Strahan, "As surely as the blush of health fades before starvation and disease, so does moral loveliness fade in the presence of vice and degradation." A man of large experience in dealing with delinquents recently said to the writer: "Perhaps there are some people who would be moral under any circumstances, and others who would be immoral under any circumstances; but most people are moral or immoral as circumstances make them so." There is much truth in this observation, both on biological and psychological grounds. A man is like a plant or animal, in that he tends to become adapted to his environments. Even in moral affairs, he insensibly obeys a law that is deeper than precepts, intentions, or even habits.

The yielding to immoral influences may be explained on psychological grounds by reference to what is called the law of relativity. This law is stated by Bain in the following words: "No second occurrence of any great shock or stimulus, whether pleasure, pain, or mere excitement, is ever fully equal to the first, notwithstanding that full time has been given for the nerves to recover from their exhaustion. There is a certain amount of

decay in the force of every impression, on the after-occasions when it is revived."[1] Accordingly, when a perfectly normal person is first brought into contact with vice, his entire nature is shocked; but with each succeeding experience of that character, he feels less and less the enormity of the thing, until he may come to condone it entirely. This law of relativity is expressed less scientifically, but quite as aptly, by the poet:

> "Vice is a monster of so frightful mien,
> As, to be hated, needs but to be seen;
> Yet, seen too oft, familiar with her face,
> We first endure, then pity, then embrace."

When, as in the case of the delinquent children, there is an hereditary predisposition towards evil habits, one needs not the law of relativity to explain their immoral associations and practices. Yet even here it is probably at work. However bad the hereditary taint, there must be in every young child some saving elements which make an immoral course possible only after a certain hardening process. This hardening process is largely in conformity with the law of relativity, and, as regards the delinquents in question, it was accomplished through the baneful examples of parents and young associates. In the case of every boy and almost every girl, it was found that some chum, or several chums, had played a more or less important part in their lives. Their truant expeditions, their tobacco habits, their thefts, were usually joint affairs; and frequently the boys said they had been influenced into wrong-doing by those who were older and more experienced in evil. Certain it is that the example of parents and others whose moral sense was dulled by vicious habits, and whose regard for law and order was inspired by no higher emotion than fear of the police, cannot but have arrested the growth of whatever moral instinct the children possessed, and accustomed their young minds little by little to a like immoral, and even criminal, attitude towards society.

§ 3.

Conclusion.

In conclusion, it seems to the writer that the degeneracy found to exist in these delinquent children must be interpreted mainly as the result of two forces: (1) a degenerative process at work in the drunken stock from which they are descended; and (2) bad environments, which have continued and augmented the process inherited. Their parents have undergone modifications in the direction of a less perfect physical structure and less highly developed psychical powers. They have deviated,

[1] *Mind and Body:* p. 51.

morbidly, from the type of their race and civilization. In their unholy transmission of life, their diseased cells, potential for almost every moral and intellectual evil, have passed on to their children. These children have been born into environments partly the making of immoral and improvident parentage, and partly the making of social selfishness and neglect. There they have found a habitat favorable to the development of their evil tendencies, but favorable to nothing else. Like the child that has been born of consumptive parents, but yet is compelled to remain in the most unhealthful of climates, so must these morally diseased children live amidst surroundings that promise nothing but death.

In such surroundings they remain, until, through their developed anti-social tendencies, they begin to trespass upon the rights of respectable people. Then society takes them into custody, and the question arises, what shall be done with them? This question it is not the purpose of the present study to answer. Suffice it to say that the practical answer given by the best grade of reform-schools is eminently scientific, as well as benevolent. The children are removed, first of all, from their evil habitat; that, in itself, is a long step towards an improvement in their condition. Then, as in the schools referred to in this study, they are lodged and boarded according to the cottage system. They are organized into families, as it were, with a master and assistants *in loco parentium*, and here, perhaps, they get their first experience of healthy social life. They are taught the manual arts, and are prepared, so far as possible, to maintain themselves by honest employment. They are fed and clothed well, and are instructed in the hygiene of personal cleanliness and correct habits. They are educated in the common branches by special teachers, and through the media of regular school-rooms and appliances. They are brought under wholesome moral influences through religious services, literary societies and clubs of various kinds. They have athletic and other sports, celebrate special holidays by exhibitions of their knowledge and skill, and are given opportunity to hear lectures and entertainments of an elevating character. All this is excellent, and the statistics of such institutions show that there is a general improvement in the condition of the children, with enough cases of complete reformation to demonstrate the efficiency of such a system.

But the curative method, however sure and satisfactory it may be in many cases, falls far short of meeting all the requirements. There is a residuum of bad cases that cannot be gotten rid of through physical, intellectual or moral discipline. The fate of an evil destiny is upon them. They are passed on to other places of confinement, or are at last sent forth to at least

a doubtful career. Besides, such schools become more and more crowded; their accessions are greater than their dismissals; the work of reforming the delinquent classes becomes discouraging because they do not decrease. Society has not yet learned to supplement cure with prevention. It quarantines its communities or families infected by disease; it takes advantage of every known prophylactic to prevent the onslaught or advancement of small-pox or yellow-fever; but it throws no quarantines about its plague-spots of vice and crime; it destroys no germs of immorality through disinfection.

Now, if it be true that the delinquent and defective classes are, in any large part, the product of known or ascertainable causes, then does it become the pressing obligation of society to seek to remove the causes and stop the product. If it can remove the causes, and yet does not, it is remiss in its most sacred duty, that of self-preservation. If it cannot remove the causes, then let it at once, in shame and terror, confess its impotence. Like the man in the allegory, it is chained to a corpse whose dissolution must make civilization itself sick unto death. The writer, for one, does not believe that society is, or ever can be, impotent to save itself. The knowledge of causes, which science is more and more giving to the world, will one day become the handmaid of righteousness. Through such a union will civilization redeem itself from the morbid conditions which produce its defective and delinquent classes.

I desire to acknowledge my obligations to the authorities of Clark University for the use of apparatus and other facilities for doing the above work. To President Hall my debt is especially great; also to Supt. Chapin, Assist. Supt. Day, and Mr. Greene, of the Lyman School; and to Miss Elizabeth C. Putnam, of the Board of Trustees for the Lancaster School. Mr. Greene, who is Instructor in Physical Culture in the Lyman School, rendered invaluable assistance during a number of days' work among the boys, and Miss Putnam did a similar service with respect to the girls. The intelligent and sympathetic co-operation of these reform-school officials, and their assistants, has alone made possible the execution of a work that involved no little difficulty and embarrassment. My thanks are also due to Supt. Carroll and Principal McKeon, of the Worcester Public Schools, for the opportunity of testing the two groups of normal children.

LITERATURE.

The New Arithmetic. First Year. For the Use of Teachers. WILLIAM W. SPEER, Assistant Superintendent of Chicago Schools; pp. 154. Ginn & Co.

This book is a pedagogical monograph and teachers' handbook upon the psychology and method of making the initial step in presenting mathematics to children entering school. A preface and introduction upon the theory of arithmetic of 36 pages is followed by 118 pages of sample examples and model lessons copiously interspersed with psychological explanations and pedagogical hints. The dominating mathematical idea is that of number as a ratio, a relation of magnitudes, or that "the *one* of mathematics is not an individual, separated from all else, but the union of two like impressions; the relation of two equal magnitudes." This emphasized fact will be recognized as the point Dr. Harris made the burden of his treatment of arithmetic in the Report of the Committee of Fifteen, and which somewhat later was that which caused Dr. J. A. McLellan such labor in his delivery of "The Psychology of Number." But, however identical in fundamental mathematical concept the two books are, they are antipodal in methods of presenting these conceptions to the child. Mr. Speer's method is pedagogical. He starts from the standpoint of an undeveloped but developing child mind and proceeds by the light of modern child psychology; recognizing that the child mind has a certain developing order in receiving and assimilating material, and is not merely an empty barrel into which the mathematical hodman may shovel his completed conceptions in the order convenient to the mathematical formulas and pedagogical ignorance of his specialized and completed brain: a postulate which follows is that the subject matter must also be developing in material, method and conception. To reach this conception of number as a ratio or relation, the child starts with qualitative comparisons in accordance with Spencer's dictum that "in the growths of the individual mind the progress must be through the qualitative to the quantitative, and every act of quantitative reasoning is qualitative in its initial stages." The child is given a variety of objects and led to make judgments regarding size, weight, shape, location, color, expressed in the qualitative yet suggestively quantitative terms of larger or smaller, longer or shorter, heavier or lighter, etc. Emphasis is placed upon the essential necessity of stamping the imagination with clear cut visual and motor images of concrete objects in relation, and to this end numerous ingenious methods and devices are offered in the way of seeing, touching, handling, arranging, cutting, drawing and imagining, "for it is the certainty of the *seen* which makes us rationally certain of the *unseen*," as Galton has shown. "Complex conceptions cannot be imposed on the mind incapable of receiving them; neither can simple truths. The child no more knows that two things equal to the same thing are equal to each other, until he sees it to be so, than he knows that yellow and blue make green." These images must first be thoroughly ingrained in perceptions of sense.

The second step in method is in passing from these inexact judgments

to the perception of equality, "for the child sees things as longer or shorter, larger or smaller, before he is able to see their perfect equality or inexact degree of inequality." This perception of equality constitutes unity, "the mathematical one," and from this as a basis the way is open for more exact judgments of quantity to the conception of the "how many" in the sense of ratio. The transition from the concrete perceptions to the abstractions of quantity is accomplished in the natural way by which all abstractions are formed, i. e., by multiplied presentations of identical relations under a variety of different material, an assortment of blocks, lines and other material, some of which are identical in shape, size, etc., are presented and the child is led to pick out the 1's, 2's, 3's, etc., as expressions of relation. The author recognizes that the mere problem of language teaching in the difficulty of mathematical terminology is confused with quantitative difficulty in the minds of many; by clearly pointing out this difficulty, as a language difficulty, the problem is half solved, and the natural language methods suggested should solve the other half.

A mildly conservative stand is taken in regard to making arithmetic an incident of other studies (e. g. nature study), offering the argument that the objects pertaining to animals and plants are unfitted as mathematical objects, because "that which is material is obscured by that which is irrelevant." While, perhaps, there is still ground for discussion upon some minor points, e. g., it might be urged that under an ideal school system, practically all that Mr. Speer offers should be relegated to the kindergarten, for it is to be feared that some of the exercises might affect children of six or seven with mental biliousness, yet, as a whole, the book breathes an air of sanity, has about it the fresh smell of the practical workshop, and is worked out by a mind conversant with the current psychological problems with which it deals. Some may, perhaps, object that this notion of number as an abstract relation is not a possible child's conception, except as a parrot utterance, even under the best pedagogy of method; and that consequently it would be safer to allow our Hegelian friends to try awhile longer their interesting experiment of initiating American adults, before we encourage the mixture of their other concoctions with the pap of air-breathing American infants.

Such a book, in method at least, is one of the hopeful harvest signs of child psychology in its relation to pedagogy.

F. L. BURK.

Briot et Bouquet, Elements of Analytical Geometry of two dimensions, Fourteenth Edition, translated and edited by JAMES HARRINGTON BOYD, Instructor in mathematics in the University of Chicago. Chicago and New York (Werner School Book Company.)

The reviewer is a pupil of the two authors of the book, and will always preserve a pleasant recollection of the time he spent in attending their lectures, either at the Sorbonne or the Collège de France. M. Bouquet, in particular, always lectured without any notes, certain to find in his faithful memory whatever formula he needed. To get stuck is rather a disgrace for a French professor, who has all the time (seventy or eighty minutes) to himself without ever being interrupted by the students. The right of the two mathematicians to be remembered by a grateful posterity will rest, however, not on their pedagogical qualities, but on a theorem they published years ago in an old volume of the Journal of the Polytechnic School. Analytical geometry—a very popular subject in France on which Descartes and Auguste Comte have written treatises recently reprinted—is taught in the lyceums, and as the pupil, if refused at the competitive examina-

tions for the École Normaleor École Polytechnique, may spend several years on Analytical Geometry, there is plenty of time for a thorough study of the subject. The two ponderous lithographed volumes of Painvin's may give an idea of the extent of ground covered. The disadvantage of teaching analytical geometry in the high schools--to which the French lyceums correspond—is, however, that the pupils at the time know yet too little of infinitesimal calculus. This remark will explain many a trait of a French book on the subject. It need hardly be stated that people living in Paris have ample opportunity to supplement the knowledge acquired in a lyceum by the excellent lectures of M. Darboux. The more recent editions of Briot and Bouquet's book have been revised by M. Appell, who from a brillant *maître de conférences* at the Sorbonne—as the reviewer has known him—rose to the rank of one of the leading mathematicians of the day. It seems strange that his name has been dropped in the English translation. Some twenty years ago young men were wont to walk into the yard of the Old Sorbonne, look at the sun dial, the inscription on which reminded them that their days were like unto a shadow (*sicut umbra dies nostri*), then ascend one flight of steps in order to assemble in a dark room in the second story and work along—under M. Appell's guidance--at some problem, utterly undismayed by the rumors of the Latin Quarter deadened by the thick walls of the old building. We all knew *qu'il fallait potasser*. As Henry John Stephen Smith said at the time mathematics in France was at its lowest ebb, and we all knew that it was so.[1] To avoid a misconception I must say that there never was a total interruption of mathematical productivity in France—the death of Cauchy was posterior by many years to the rise of M. Hermite still living—only there was some slackening in the work done. The times have changed since, and the prophetic words of the same eminent mathematician will apply now-a-days to a country other than France:

"Perhaps also it might not be impossible to show, and even from instances within our own time, that a decline in the mathematical productiveness of a people implies a decline in intellectual force along the whole line; and it might not be absurd to contend that on this ground the maintenance of a high standard of mathematical attainment among the scientific men of a country is an object of almost national concern."[2]

As the original of Briot and Bouquet's work has been already reviewed in the Bulletin of the American Mathematical Society, it will be sufficient to examine the translation. This is generally very clear and faithful—a few venial errors excepted, as the *symmetrique* of p. 31—and it is only towards the end that the translator commits a grievous fault. Briot et Bouquet give a collection of problems taken from different French examination papers with mention of the special occasion at which each set of problems was proposed. Some of the problems are headed, for instance:

Concours général; Classe de mathématiques spéciales.

Concours général means a competitive examination of the best pupils of the Paris and Versailles lyceums and the Stanislas and Rollin colleges—each sending a certain number of competitors. As to the *classe de mathématiques spéciales* or simply *la spéciale*, it is the highest class or grade of a French lyceum corresponding to the German *prima* with the specialization indicated by the title. Now Mr. Boyd translates:

General Assembly; Special class of mathematics.

The French adjective *spéciales*, being a plural, refers to *mathémati-*

[1] Collected mathematical papers, Oxford, vol. I, p. 85.
[2] Henry John Stephen Smith, Collected mathematical papers, vol. II, p. 190.

ques and not to the word *classe*, which is a singular. The branches of mathematics designated by the title are mainly the theory of equations (as in M. Amigues' book, for instance,) and the Analytical Geometry. The translator went so far as to drop the problems, whose headings he could not translate, such as

Agrégation des sciences mathématiques, and Bourses de licence.

Agrégation is a French degree granted to those who desire to become professors in a lyceum after a competitive examination, at which the problems under the heading were proposed. *Bourses de licence* are fellowships for those who want to get a licentiate's degree, which are awarded after a competitive examination. P.

Demon Possession and Allied Themes, by JOHN L. NEVIUS, D. D. N. Y., F. H. Revell & Co., pp. 482.

The author of this book, for forty years a missionary to China, has collected a quantity of data concerning demon possession among the Chinese, also in India, Japan and some other countries.

After describing a great number of cases, he discusses the theories usually advanced to account for such phenomena. He avows his belief that these theories are inadequate. Demon possession is a literal fact; the Bible teaches it; the history of witchcraft points emphatically to it; the phenomena of spiritism are most readily explained by referring them to *evil* spirits. Even Mohammedanism may have had its origin in the agency of evil spirits, since it is opposed to Christianity and civilization. Especially as Mahomet himself, in the latter part of his life, suffered from "epilepsy," which is often only another name for demon possession.

In judging the validity of the author's conclusions, two facts must be borne in mind. First, the cases were nearly all reported by native Christians, since the superstition of the people is such that they will not allow foreigners to investigate the cases. Consequently all the facts come from those who are themselves very superstitious, and also being recent converts to Christianity, are anxious to corroborate what they understand to be the teaching of the Bible.

Second, although the author went to China with "a strong conviction that a belief in demons belongs exclusively to a barbarous and superstitious age," yet he appears not to have remained long even in a state of doubt. He seems to have quickly accepted demon possession as a fact, and his arguments are continually colored by this belief. He even falls into the error of *petitio principii* in his endeavors to dispose of the other theories, and establish his own.

Altogether the book adds little to our understanding of the "occult."

Grundriss der Schulgesundheitsfflege unter Zugrundelegung der für Prussen gültigen Bestimmungen bearbeitet, von DR. R. WEHMER, Berlin, 1895. pp. viii, 159.

There is a very convenient digest of the laws in Prussia relating to school hygiene. Also the general principles of hygiene as recognized by legislation are résuméd. It is noteworthy that some matters that are still discussed or ignored in many parts of this country are matters concerning which there is such general consensus in Prussia that the opinion of experts has already crystalized in law. For example, at least forty minutes for recess is required in the higher schools, the impositions of tasks as punishment is forbidden, home study is limited, and instructions are given in regard to the manner in which home study shall be imposed. Part III of the book treats school diseases and gives instructions for cases of sudden accident.

Methods for the Determination of Organic Matter in the Air. By DAVID HENDRICKS BERGER, B. S., M D., Washington: Published by the Smithsonian Institution, 1896. pp. 28.

Dr. Berger, working in the Laboratory of Hygiene of the University of Pennsylvania, has tested a number of the common methods of determining organic matter in the air, and concludes that "the most reliable method for the estimating of organic matter in air is that known as Remsen's method. The pumice-stone seems to be the best form of absorbent material, because it can be thoroughly cleansed by heat without changing its condition or usefulness." The paper is chiefly interesting as a contribution in methods in general hygiene, but one conclusion is interesting to school hygiene. It is as follows: "The quantity of organic matter bears an intimate relation to the amount of dust floating in the air. It is probable that the gaseous organic matter forms but an exceedingly small proportion of the total organic matter." W. H. B.

The author of *Zur Reform des Unterrichtsbetriebes in Volksschulen*, von I. KÖNIGSBAUER, Bamberg, 1894, pp. 53, is a royal inspector of normal schools, and his reform is indeed radical. All the material of instruction should be reconstructed into the following 19 groups, on centers of concentration, based each on a natural interest of childhood. 1, food and nutritives; 2, clothing; 3, habitation; 4, heating and illumination; 5, occupations and trades; 6, land and its products; 7, wind and weather; 8, astronomy and seasons; 9, human congregations; 10, division of labor; 11, social divisions; 12, communities and trade; 13, property; 14, values; 15, householding; 16, customs and habits; 17, strife and justice; 18, æsthetics and morals; 19, religious training. This involves all now taught, and more, and by very different groups. Each topic should be taught by a scheme fully tabulated from the first to the eighth school year. Every teacher interested in progress should ponder these charts.

The author of *Die Arbeitskunde*, von R. LEYFERT, Leipzig, 1895, pp. 241, would reconstruct this kind of school work from the fifth school year as follows: For the fifth and sixth school years, the topics should be: 1, dwelling; 2, heating; 3, illumination; 4, food; 5, clothing; 6, weather; 7, roads and connections; 8, fundamental mechanics. The seventh and eighth years should take up coal, iron, other metals, steam, glass, and other special manufactures.

This country has never seen an academic pageant to compare with the late celebration of Princeton. Even Harvard's 250th anniversary, was, in many respects, less splendid. One feature conspicuously in evidence was the new code academic costume, in which hood and hat, as well as the gown itself, are marked with conspicuous colors, giving to those who knew the code of symbols, the University of the wearer, his degrees, faculty and work. There is a distinct movement gownward, and this celebration helped it on. Again, the foreign delegates and lecturers gave it a more international character than was ever seen in this country before. Professors Klein, of Gittingen; Thompson, of Cambridge, England; Mousson, of Paris; Dowden, of Oxford; and Seth, of Edinburgh, had lectured on their specialties the preceding week, to small, but select audiences. Most of the arrangements were admirable, the weather perfect, the expenses lavish, the attendance large, the president's address, perhaps his very best, and it will be an interesting experiment to see whether, and in what way, it all pays. Carefully guarded as was Professor Wilson's eulogy of humanistic studies, serious exception was taken to part of it by not a few of the

most distinguished scientific visitors, while the ultra conservatism of Princeton was in some respects exceedingly manifest. In his inaugural address, some years ago, President Patten said Princeton was then a University, using the words *si queris universitatem, circumspice*. Now it became an University in very deed, and that without any great change. To mark the new era, however, money for a large University hall has been raised; and many new University fellowship are to be established. The ideals, however, seem rather more English than German.

None of the newspaper comment, voluminous as it has been, concerning the changes accomplished and anticipated at the Catholic University in Washington, have touched what we believe to be the real problem as it is viewed at Rome. Small as it is, and always has been in numbers, the effort of Bishop Keane has steadily been to develop and sustain a high and truly university standard, so that the more than two score catholic colleges could fit for it and send to it the picked and elect few of their graduates, who wish to go on to higher things, instead of to the Propaganda at Rome. It is even more against the interest of papal concentration to have a rival to this great home finishing school established in this country than it was to have such a northern rival established at Louvain. In Father Conaty an admirable choice is made. The country will watch with interest to know whether the grade of work at the University is to be let down so that future leaders of the church will have to go to Europe or can complete their training in this country.

The Ideal of Universities, translated and enlarged by the author, is reprinted from the Metaphysical Magazine, N. Y., and published in a volume of 104 pages. The four ideals have been philosophical among the Greeks, judicial among the Romans, theological in the middle ages, and physical sciences now. Each of these is briefly traced and evaluated, and an ideal system of all tendencies of sciences is outlined with some new terminology, which, it is urged, a true university should embody. Metro-science, cosmo-science, geo-science, fyto-science, zo-science, anthropo-science, harmo-science, auto-science, are terms that explain themselves. So there are four applied fields: psycho-technics, socio-technics, hermo-technics, and onto-technics. Each with plenty of subdivisions. The more specialization increases and particular sciences multiply, the more need of studying the unity of all sciences. A university should thus rest on a scientific encyclopedia.

In his little book, *Les Universités des Deux Mondes*, just published in Paris, Dr. Laurent describes very briefly one or more universities he deems typical in about every country of the world, with plans of the buildings and grounds of Cornell and Tokio, and the Syms laboratory, N. Y., and cuts of two or three odd buildings. Brief sections are devoted to the modes of appointing professors, student life, statistics, but all is sketchy and incomplete.

The good fortune that has lately come to the State University of California at Berkeley, will please every friend of higher education. A special edition of the Berkeley Advocate of October 31, states that besides the magnificent gift of Mrs. Phebe A. Hearst, the widow of the late senator, four million dollars have been promised by private citizens for buildings. The sum of $15,000 is offered for plans for architectural improvement by international competition. Since 1890 the University has grown from 500 to 1,500 students, while State aid has annually declined and the Stanford University has grown rapidly near by.

The third monograph supplement of the *Psychological Review*, October 3, 1896, is a pamphlet of 150 pages, by Kathleen Carter Moore, on The Mental Development of a Child. The first two years of the life of the author's son are described under four captions: movements, sensations, ideas, language. Observations and not experiment was the method. The child's development, the mother tells us, was "normal." "He heard neither baby talk, nor any of the set phrases which are regarded as suitable to the comprehension of small children." He played much alone, and was not taught the tricks usually taught to babies. Mrs. Moore's methods are modeled on Preyer, and her psychology is not unlike that of Wundt. The reader will often wish she had known more of the literature of psychology and child-study or less. More might have inclined her to say at least a word about such important factors as anger, fear, jealousy, and many topics in the series represented in this journal, of which she has apparently never heard. Less would have saved the reader many a bit of arbitrary and scholastic rubric following, which makes the spectacle of a mother observing her own child only a little less unpleasant than if she had put it through standard experiments. Such returns as these, when accumulated in sufficient numbers, will have certain advantages over all other methods, but suffer, also, under certain very grave disadvantages. This memoir, however, on the whole, is of great value, and makes many additions to our knowledge of the psychology of the first two years of life. May the author continue it as the child grows.

In the last volume of Wundt's Philosophic Studies, H. Eber has a forty page criticism of recent child psychology, devoted chiefly to Preyer, Perez and Baldwin. In this field, he premises, as in the study of animal instinct and in Volks-psychology, we must renounce every exact method. From other abstract ratiocination, the author concludes that to be purely empirical psychology, all child study must rest on articulate speech, and cannot do very much before speech. Baldwin "mit einem uberkühnen Sprung ins biologische Gebiet," he says, leaves the matter of fact given by research and plants himself on Hæckel's biogenetic law, with certain variations assuming epochs and stages, and laws, "dialectically worked over," confusing physiological and psychological, following Spencer, etc. Preyer's theory, that the primitive psychic processes are sensuous and motor, and his derivation of feelings directly from physical processes, does not satisfy Eber. The conceptions of will, memory, and association, understanding, by the authors reviewed, are also criticised from the standpoint of Wundt.

R. P. Halleck's *Education of the Central Nervous System* (McMillan, 1895, p. 256) is a puzzling book, which it is not easy to understand the purpose or use of. Perhaps its best utilization could be unfolded in an institution like the Emerson School of Oratory. Its object is to "prescribe for our complex central nervous systems at the proper time the special kinds of exercise, sensory, motor and ideational demanded for full development." Although professing himself as less fatalistic, the author leans heavily on Professor Donaldson's book. Some images are needed for development, and so recalled images in many pages of quotation from English poets are presented. It is a popularization that will interest and instruct any teacher, but cannot be called a work of great importance.

The steadily growing size and scope, and especially quality of the successive Reports of the Commissioner of Education, is a matter of congratulation and of national pride. Of all the educational annuals of the world, this is by far the most valuable. It occupies an intermediate position between the prolix details of a British blue book and a general

treatise on the educational status of the world. Even the disadvantage of being two or more years behind is alleviated by the printing of anticipatory chapters of forthcoming Reports, like that on Higher Education in Poland, just out. The dryness of office work compilation which used to mark this Report is yielding to more engaging modes of presentation.

The value of The International Education series, edited by U. S. Commissioner Wm. T. Harris, and which has now reached its thirty-fifth volume, is steadily increasing. No such series exists, and it should be in every library used by teachers. The last volume is a translation of Compayre's Intellectual and Moral Development of the Child, which will be finished in a second volume. Child study has grown so rapidly, that this work, although it first appeared barely two years ago, is often sadly behind the times. The writer has hardly heard of the work in this country, and his volume is devoted chiefly to infancy and the period of life before school. It is by a pedagogue and not by a psychologist.

In his volume of lectures and essays on School and Home Life, and current educational topics generally, Mr. T. G. Rooper, M. A., Baliol, treats object teaching, drawing inspection, organization, Fröbel, home and school, evening schools, sloyd, normal training, religious education, bad bringing up, "a pot of green feathers," etc., in an interesting and suggestive way. The papers are of exceedingly different degrees of merit, and the standpoint the high one of a well trained University man. It is a very suggestive book.

In the *Psychological Review* for September, 1896, H. Griffing & Franz, of Columbia, print interesting tests of the Conditions of Fatigue in Reading, by methods modified from those of Cattell and Sanford, from which it is concluded that the size of type is the all-important condition of visual fatigue. Within the limitations of daylight in a well lighted room the intensity of illumination makes little difference. Thickness of the letters is more important than form of type. White paper, white light, plenty of leading, or spacing between lines, helps.

In his booklet on *The Point of Contact in Teaching*, Mr. Patterson du Bois urges that points of sympathy between teacher and pupil should be the point of departure. The teacher should start from the pupil's position and not that of the adult. Where the child touches life, there we must begin. Daniel, Zechariah, the creation, the Jewish temple and other far off things so commonly dealt with in the Sunday School, cannot be well taught unless we can find a definite point of contact with present interest. The catechism, the map of Palestine, Scribes and Pharisees, etc., are apt to miss this point, and Sunday School workers, especially, need to lay to heart the wise admonitions of this book, for if there is any field of instruction more in need of pedagogic principles than another, it is the Sunday School.

Child's Christ-Tales, by Andrea Hofer Proudfoot, Chicago, 1896, contains 90 pages of text and 31 full page pictures from famous masters, illustrating the Christ-child. The text is simple, and what is more, sympathetic and engaging; the binding is tasteful, and the whole comparatively inexpensive, so that it is no wonder the volume has had a large sale. All in all, it is a new idea admirably carried out.